JACOBSEN®
A Textron Company

4192121-Rev.A-DK

Parts & Maintenance Manual

Reservedels- og vedligeholdelsesmanual

R-311™ Rotary Mower with folding ROPS

R-311™-rotorplæneklipper med sammenfoldelig ROPS-styrtbøjle

69166 – Kubota® V2203-M

69167 – Kubota® V2203-M EC

⚠ WARNING

If incorrectly used, this machine can cause severe injury. Those who use and maintain this machine should be trained in its proper use, warned of its dangers and should read the entire manual before attempting to set up, operate, adjust or service the machine

⚠ ADVARSEL

Denne maskine kan forårsage alvorlig personskade, hvis den bruges forkert. Alle, der bruger og vedligeholder denne maskine, skal være korrekt uddannet til dette, skal advares om farerne og læse hele instruktionsbogen, før maskinen forberedes, bruges, justeres eller serviceres.

JACOBSEN®
A Textron Company

When Performance Matters.™

GB English

DK Danish

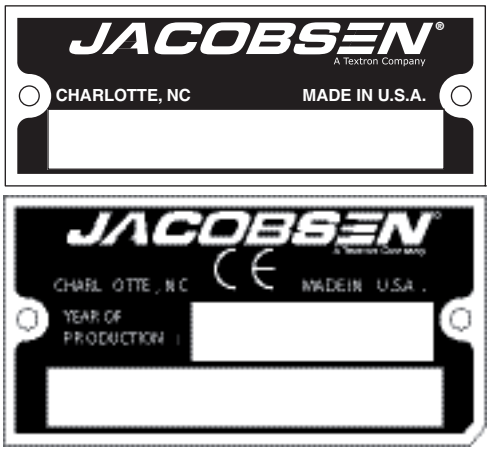
FOREWORD

This manual contains adjustment, maintenance, troubleshooting instructions, and parts list for your new Jacobsen machine. This manual should be stored with the equipment for reference during operation.

Before you operate your machine, you and each operator you employ should read the manual carefully in its entirety. By following the safety, operating, and maintenance instructions, you will prolong the life of your equipment and maintain its maximum efficiency.

If additional information is needed, contact your Jacobsen Dealer.

The serial plate is located on the right frame rail. Jacobsen recommends you record these numbers below for easy reference.



Suggested Stocking Guide

To Keep your Equipment fully operational and productive, Jacobsen suggests you maintain a stock of the more commonly used maintenance items. We have included part numbers for additional support materials and training aids.

To order any of the following material:

1. Write your full name and complete address on your order form.
2. Explain where and how to make shipment:
   - q UPS
   - q Regular Mail
   - q Overnight
   - q 2nd Day
3. Order by the quantity desired, the part number, and the description of the part.
4. Send or bring the order to your authorized Jacobsen Dealer.

Service Parts

Qty.	Part No.	Description	Qty.	Part No.	Description
	4113986	Engine Oil Filter		555771	Hydraulic Return Oil Filter
	549633	Engine Air Filter		2811255	Hydraulic Charge Oil FIlter
	557619	Engine Fuel Filter			

Service Support Material

Qty.	Part No.	Description
	4192120	Safety & Operation Manual
	4192121	Parts & Maintenance
	4192126	Kubota Engine Parts Manual

Qty.	Description
	Service Manual

Proposition 65 Warning

This product contains or emits chemicals known to State of California to cause cancer and birth defects or other reproductive harm.

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Litho In U.S.A. 2-2009

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1 SAFETY

1.1 OPERATING SAFETY

⚠ WARNING

EQUIPMENT OPERATED IMPROPERLY OR BY UNTRAINED PERSONNEL CAN BE DANGEROUS.
Familiarize yourself with the location and proper use of all controls. Inexperienced operators should receive instruction from someone familiar with the equipment before being allowed to operate the machine.

1. Safety is dependent upon the awareness, concern, and prudence of those who operate or service the equipment. Never allow minors to operate any equipment.
2. It is your responsibility to read this manual and all publications associated with this equipment (Safety & Operation Manual, Engine Manual, and attachments/accessories instruction sheets). If the operator cannot read English it is the owner's responsibility to explain the material contained in this manual to them.
3. Learn the proper use of the machine, the location and purpose of all the controls and gauges before you operate the equipment. Working with unfamiliar equipment can lead to accidents.
4. Never allow anyone to operate or service the machine or its attachments without proper training and instructions; or while under the influence of alcohol or drugs.
5. Wear all the necessary protective clothing and personal safety devices to protect your head, eyes, ears, hands, and feet. Operate the machine only in daylight or in good artificial light.
6. Evaluate the terrain to determine what accessories and attachments are needed to properly and safely perform the job. Only use accessories and attachments approved by Jacobsen.
7. Stay alert for holes in the terrain and other hidden hazards.
8. Inspect the area where the equipment will be used. Pick up all the debris you can find before operating. Beware of overhead obstructions (low tree limbs, electrical wires, etc.) and also underground obstacles (sprinklers, pipes, tree roots, etc.). Enter a new area cautiously. Stay alert for hidden hazards.
9. Never direct discharge of material toward bystanders, nor allow anyone near the machine while in operation. The owner/operator can prevent and is responsible for injuries inflicted to themselves, to bystanders, and damage to property.
10. Do not carry passengers. Keep bystanders and pets a safe distance away.
11. Never operate equipment that is not in perfect working order or is without decals, guards, shields, discharge deflectors, or other protective devices securely fastened in place.
12. Never disconnect or bypass any switch.
13. Do not change the engine governor setting or overspeed the engine.
14. Carbon monoxide in the exhaust fumes can be fatal when inhaled. Never operate the engine without proper ventilation or in an enclosed area.
15. Fuel is highly flammable; handle with care.
16. Keep the engine clean. Allow the engine to cool before storing and always remove the ignition key.
17. Disengage all drives and engage parking brake before starting the engine (motor). Start the engine only when sitting in operator's seat, never while standing beside the unit.
18. Equipment must comply with the latest federal, state, and local requirements when driven or transported on public roads. Watch out for traffic when crossing or operating on or near roads.
19. Local regulations may restrict the age of the operator.
20. Operate the machine up and down the face of slopes (vertically), not across the face (horizontally).
21. To prevent tipping or loss of control, do not start or stop suddenly on slopes. Reduce speed when making sharp turns. Use caution when changing directions.
22. Always use the seat belt when operating mowers equipped with a Roll Over Protective Structure (ROPS).

    Never use a seat belt when operating mowers without a ROPS or with the ROPS folded.
23. Keep legs, arms, and body inside the seating compartment while the vehicle is in motion.
24. Disconnect battery cables before performing any welding on this mower.

This machine is to be operated and maintained as specified in this manual and is intended for the professional maintenance of specialized turf grasses. It is not intended for use on rough terrain or long grasses.

1.2 IMPORTANT SAFETY NOTES

This safety alert symbol is used to alert you to potential hazards.

DANGER - Indicates an imminently hazardous situation which, if not avoided, WILL result in death or serious injury.

WARNING - Indicates a potentially hazardous situation which, if not avoided, COULD result in death or serious injury.

CAUTION - Indicates a potentially hazardous situation which, if not avoided, MAY result in minor or moderate injury and property damage. It may also be used to alert against unsafe practices.

NOTICE - Indicates a potentially hazardous situation which, if not avoided, MAY result in property damage. It may also be used to alert against unsafe practices.

For pictoral clarity, some illustrations in this manual may show shields, guards or plates open or removed. Under no circumstances should this equipment be operated without these devices securely fastened in place

⚠ WARNING

The Interlock System on this mower prevents the mower from starting unless the brake pedal is engaged, PTO switch is off and traction pedal is in Neutral. The system will stop the engine if the operator leaves the seat without engaging the parking brake or setting the PTO switch off.

NEVER operate mower unless the Interlock System is working.

⚠ WARNING

1. Before leaving the operator's position for any reason:
   a. Return traction pedal to Neutral.
   b. Disengage all drives.
   c. Lower all implements to the ground.
   d. Engage parking brake.
   e. Stop engine and remove the ignition key.
2. Keep hands, feet, and clothing away from moving parts. Wait for all movement to stop before you clean, adjust or service the machine.
3. Keep the area of operation clear of all bystanders and pets.
4. Never carry passengers, unless a seat is provided for them.
5. Never operate mowing equipment without the discharge deflector securely fastened in place.

By following all instructions in this manual, you will prolong the life of your machine and maintain its maximum efficiency. Adjustments and maintenance should always be performed by a qualified technician.

If additional information or service is needed, contact your Authorized Jacobsen Dealer who is kept informed of the latest methods to service this equipment and can provide prompt and efficient service. Use of other than original or authorized Jacobsen parts and Accessories will void the warranty.

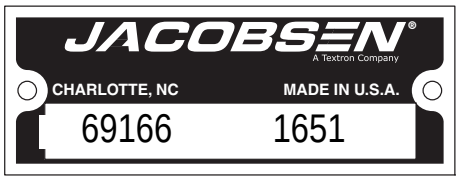
2 SPECIFICATIONS

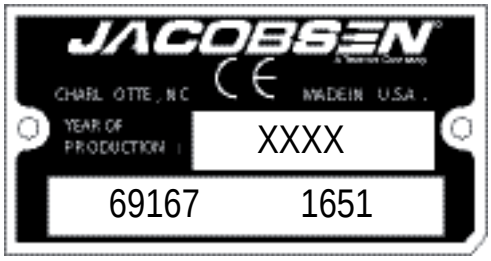
2.1 PRODUCT IDENTIFICATION

69166.....R-311 with folding ROPS.
69167.....R-311 with folding ROPS EC.

Serial Number .....An identification plate, like the one shown, listing the serial number, is attached to the frame of the mower near the center lift arm mount.

Always provide the serial number of the unit when ordering replacement parts or requesting service information.





Product	EEC Sound Power	Sound Pressure Level Operator Ear	Vibration M/S^2	
			Arms	Body
69167	105.4 dBa	87.8 dBa	1.87	0.027

2.2 ENGINE

Make .....Kubota
Model V2203-M-E3B
69166 Horsepower .....44.9 hp (33.5 kW) @2600 rpm
69167 Horsepower .....42.1 hp (31.4 kW) @2450 rpm

Note: *Actual sustained horsepower will likely be lower than listed in specifications due to operating limitations and enviromental factors*

Displacement .....134.1 cu. in. (2197 cc)
Bore and Stroke .....3.43 x 3.64 in. (87 x 92 mm)
Compression Ration 22:1
Torque .....104 ft. lbs. (140.7 Nm) @ 1600 rpm
Fuel:
- Type.....No. 2 Low or Ultra Low Sulfur Diesel
- Rating .....Min. Cetane rating 45
- Capacity.....20 U.S. Gal. (75.7 liters)

Fuel Injection Pump .....Bosch K type Mini Pump
Ignition Timing.....18° before TC
Governor .....Centrifugal ball mechanical
- Low Idle .....800 RPM
- High Idle.....2800 RPM (69166)
- High Idle.....2450 RPM (69167)

Lubrication:
- Capacity.....10 quarts (9.5 liter) with filter
- Type.....10W30
- API Classification .....CD, CE

Air Filter.....Dry type with evacuator valve and service indicator
Alternator .....45 amp
Cooling System.....Liquid Cooled
- Capacity .....8 qt. (7.6 l) 50/50 water / ethylene glycol mix
- Thermostat.....185° F (95° C)

2.3 MOWER

Tires:
- Front .....26 x 12-12, 6 Ply
- Rear.....23 x 10.5-12, 4 Ply

Pressure:
- Front .....16-20 psi (110-138 kPa)
- Rear.....10-12 psi (69-83 kPa)

Battery:
- Type.....12 Volt Lead/Acid
- Group.....AABM #75NF
- Rating .....750 CCA at 0° F (-18° C)

Service Brake .....Pedal operated disc brakes
Parking Brake .....Pedal operated disc brakes
Differential.....Single speed, limited slip

Speed:
- Forward (2WD) .....0 - 14.9 mph (0 - 24.0 km/h)
- Forward (4WD) .....0 - 7.8 mph (0 - 12.5 km/h)
- Mow .....0 - 7.7 mph (0 - 12.4 km/h)
- Reverse .....0 - 6 mph (0 - 9.6 km/h)

Hydraulic System:
Capacity .....17 U.S. gal. (64.3 liters)
Fluid Type 10W30
Return Filter .....Full Flow 10 micron
Charge Filter .....Full Flow 10 micron
Steering .....Power steering, rear wheels
Mower Lift.....3 spool manual valve and single acting cylinders
PTO Drive .....Fixed Flow Hydraulic

2.4 CUTTING UNITS

Type..... Three Fully Floating Decks
Width:
Front Deck..... 64 in. (1625 mm)
Wing Decks..... 42 in. (1067 mm)

Cutting Width:
Front and both Wings..... 134 in. (3403 mm)
Front and one wing..... 99 in. (2514 mm)
Front only..... 64 in. (1625 mm)
Drive..... Hydraulic Motors
Cutting Height..... 1.00 - 5.5 in. (25 - 140 mm)

2.5 WEIGHTS AND DIMENSIONS

Dimensions:	Inches	(mm)
Length	144	(3657)
Height (ROPS)	84	(2134)
Height (ROPS with Canopy)	92	(2337)
Height (ROPS Folded)	63.5	(1613)
Wheel Base	67.8	(1722)
Width - Transport Position	93.5	(2375)
Width - Mowing Position	139	(3530)
Ground Clearance	8	(203)
Turning Radius	33	(838)

Weights:	Lbs.	(kg)
Fuel tank filled and cutting units installed. Less Operator	3970	(1801)

2.6 ACCESSORIES AND SUPPORT LITERATURE

Contact your area Jacobsen Dealer for a complete listing of accessories and attachments.

⚠ CAUTION

Use of other than Jacobsen authorized parts and accessories may cause personal injury or damage to the equipment and will void the warranty

Accessories

Air Blow Gun..... JAC5098
Orange Touch-up Paint (12 oz. spray)..... 554598
Mulcher Kit..... 69123
High Lift Blade Kit..... 970198
Care Free Tire Kit..... 2811453
Canopy / Sunshade..... 68095
Light Kit..... 4194160
Blade Balancer..... JAC5016
Cab/Cab Accessories..... l
Brush/Sweeper..... u
Snow Blower..... s

Support Literature

Safety & Operation Manual..... 4192120
Parts & Maintenance Manual..... 4192121
Diesel Engine Parts Catalog..... 4192126

l Contact: Jodale Perry Corporation
Box 990, 300 Route 100
Morden, Manitoba, Canada R6M 1A8
Phone: (204) 822-9100
Fax: (204) 822-9111

u Contact: Loftness Specialized Equipment, Inc.
South Highway 4
Hector, MN 55342
Phone 800 . 848 . 7624
ATTN Doug Haley

s Contact: M-B Companies, Inc.
1200 S. Park Street, Box 148
Chilton, WI 53014
Phone: (888) 558-5801
Fax: (414) 849-2109

3 ADJUSTMENTS

3.1 GENERAL

⚠ WARNING

To prevent injury, lower implements to the ground, disengage all drives, engage parking brake, stop engine, and remove key from ignition switch before making any adjustments or performing maintenance.

Make sure the mower is parked on a solid and level surface. Never work on a mower that is supported only by the jack. Always use jack stands.

If only the front or rear of the mower is raised, place chocks in front of and behind the wheels that are not raised.

1. Adjustments and maintenance should always be performed by a qualified technician. If proper adjustment cannot be made, contact an authorized Jacobsen Dealer.
2. Replace, do not adjust, worn or damaged components.
3. Long hair, jewelry, or loose fitting clothing may get tangled in moving parts.

⚠ CAUTION

Be careful to prevent entrapment of the hands and fingers between moving and fixed components of the machine.

4. Do not change governor settings or overspeed the engine.

3.2 BALL JOINTS

When adjusting ball joints, be sure cut-out in ball joint is parallel to the mounting bracket, then secure in place.

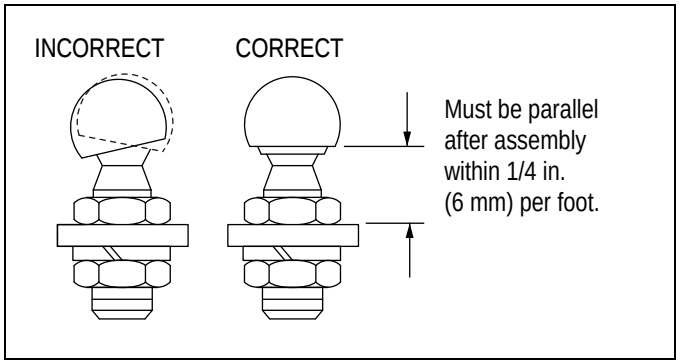


Figure 3A

3.3 ENGINE ALTERNATOR BELT

1. Inspect and adjust new alternator belt after the first 10 hours of operation. Check and adjust every 100 hours thereafter.
2. Adjust the alternator pulley so the belt deflects 9/32 to 11/32 in. (7 - 9 mm) with 22 lb. (10 kg) push at midpoint between pulleys. Refer to your engine manual.
3. To adjust, loosen alternator mounting bolts (A), and adjust alternator until the proper belt tension is achieved.

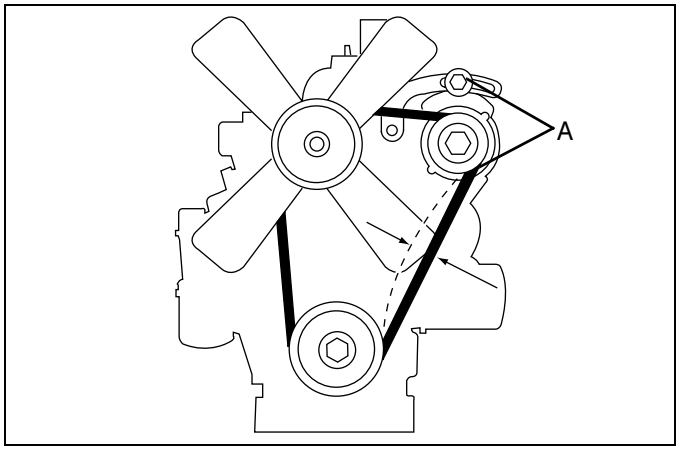


Figure 3B

3.4 BRAKE PEDAL

Adjust brakes after replacing or servicing brake assembly, or if pedal travel becomes excessive.

1. When installing new brake pads, burnish pads by driving mower at mowing speed while applying a slight pressure on brake pedal for about 5 seconds. Release and repeat five times before making the final adjustment.
2. Fully loosen adjusting nut (C).
3. By hand, pull cable behind adjusting nut (B) away from pedal until brake pads just contact brake disk. Thread adjusting nut (B) up until it contacts the mounting plate. Tighten nut (C) up to lock adjustment in place. Torque nut (C) to 20 ft. lb. (27 Nm). Do not over torque or turn cable.
4. Repeat for second cable.
5. Start mower and check operation of brakes. Park mower on an incline (approx. 16.7° slope) and engage parking brake. Brake must prevent mower from rolling. Adjust nut (B) as required.

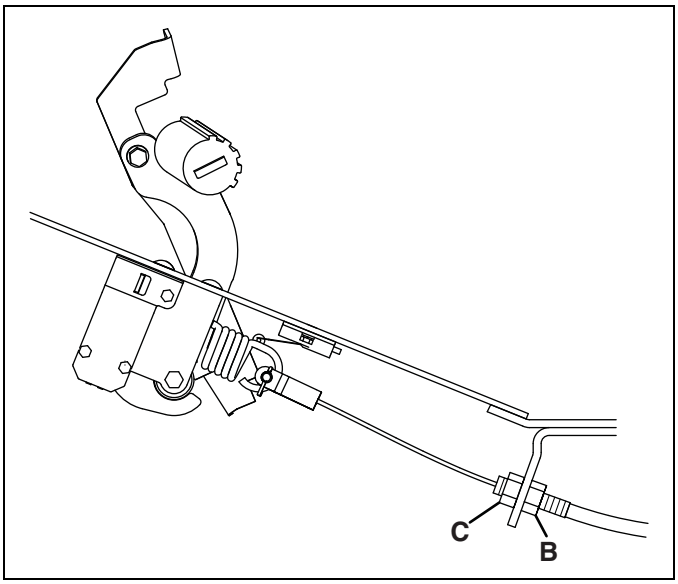


Figure 3C

3.5 PARKING BRAKE SWITCH

Check parking brake switch adjustment whenever Interlock System is not operating correctly. Switch contacts should be closed with parking brake engaged and should open when parking brake is disengaged.

1. Loosen parking brake switch hardware (D).
2. Adjust switch (E) as required so switch contacts close with the parking brake engaged, and open when parking brake is disengaged.

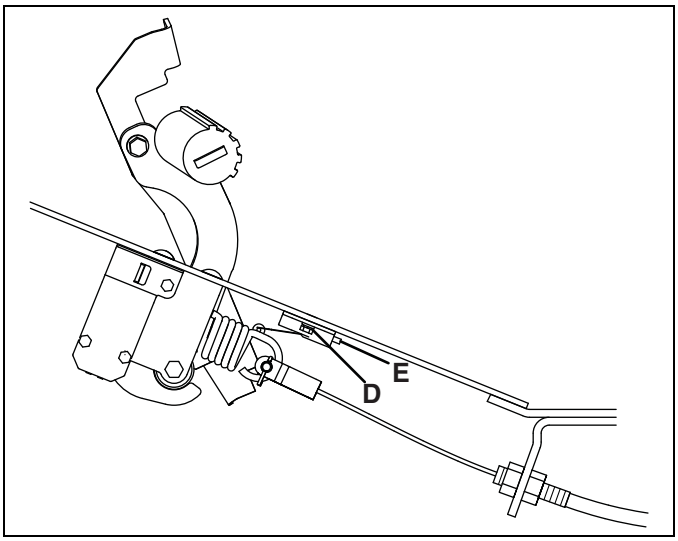


Figure 3D

3.6 CRUISE CONTROL SWITCH

If the cruise control does not disengage when brake pedal is depressed, cruise control switch must be adjusted.

1. Loosen hardware (F).
2. Adjust switch (G) so contacts are closed with the brake disengaged and open as soon as the brake pedal is pressed.
3. Tighten hardware to secure switch and recheck switch operation.

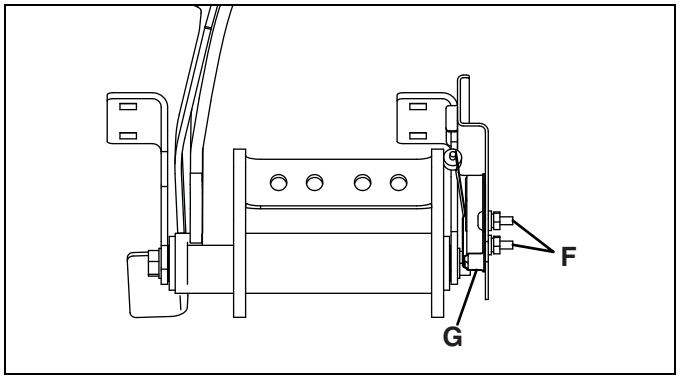


Figure 3E

3.7 MOW SPEED

Cutting quality is better at speeds well below the transport speed of the mower. An initial mow speed of seven to eight mph is set at the factory and should be satisfactory for most cutting conditions. Local turf conditions however may respond better to a different speed.

To set mow speed, loosen jam nut (R), and adjust stop screw up to reduce speed, down to increase speed. Tighten nut to hold adjustment in place.

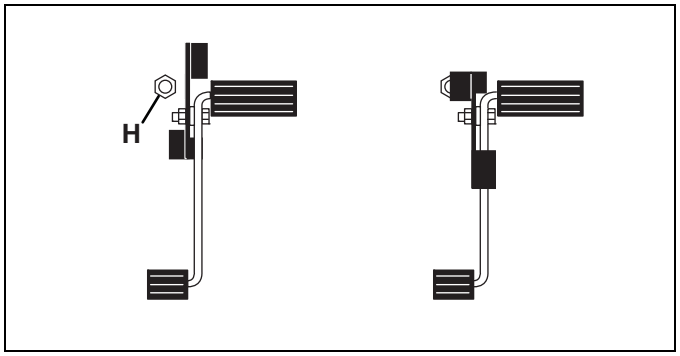


Figure 3F

3.8 WEIGHT TRANSFER

1. Adjusting weight transfer knob affects lowering time of the lift arms and also affects ground pressure at each tire.
2. Loosen thin knob (J), and adjust large knob (K) to increase or decrease cutting unit weight. Knob adjusts all three mowers simultaneously.
   a. Increasing cutting unit weight allows mowers to follow contours of ground better and reduces mower ground pressure.
   b. Decreasing cutting unit weight increases mower weight, which increases traction on slopes.
   c. Once desired ground pressure has been obtained, tighten thin knob (J).

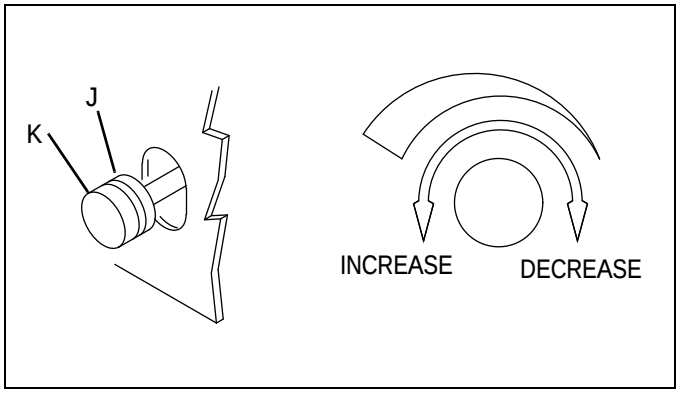


Figure 3G

NOTICE

If cutting unit weight is set too low, wing cutting units will not lower to the ground from transport position.

3.9 HYDRO NEUTRAL

If the mower "creeps" in either direction, the Neutral position must be adjusted. The mower may tend to "creep" if the hydraulic oil is cold. Operate mower for 15 minutes before determining if adjustment is needed.

⚠ WARNING

Carbon monoxide in the exhaust fumes can be fatal when inhaled. Any adjustments or repairs performed while the engine is running must be made with ample ventilation.

Never work on a mower that is supported only by the jack. Always use jack stands.

If only the front or rear of the mower is raised, place chocks in front of and behind the wheels that are not raised.

1. Place a small amount of lubricating oil on all linkage pivot points.
2. Hoist mower so all four tires are off the ground and place jack stands under the frame to prevent accidental lowering of the mower during adjustment.
3. Start engine and set throttle to full speed.
4. Disengage parking brake and place 2WD/4WD Switch in 2WD position.
5. Check rotation of drive tires and adjust traction return control (L) with the engine running.
   a. To adjust for forward creep, loosen nut (M), and turn nut (N) in until tires stop rotating. Hold nut (N) in place and tighten nut (M).
   b. To adjust for reverse creep, loosen nut (M), and turn nut (N) out until tires stop rotating. Hold nut (N) in place and tighten nut (M).
6. If mower continues to creep, check position of traction return control (L).
   a. The return control (L) must be parallel to traction arm (O).
   b. Loosen hardware (P) and adjust bracket (Q) until control is parallel to arm.

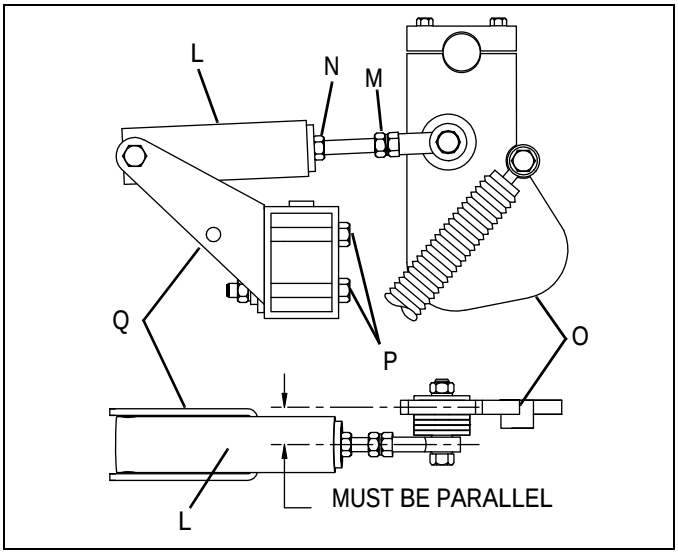


Figure 3H

3.10 REVERSE SENSING SWITCH

1. Loosen switch hardware (R).
2. Adjust switch (S) so switch contacts are open with switch roller contacting the adjustment block (T) and the traction pedal in Neutral and close when pedal is moved in the forward direction.
3. Secure switch adjustment and test operation.
4. If adjustment cannot be made, contact your authorized Jacobsen Dealer.

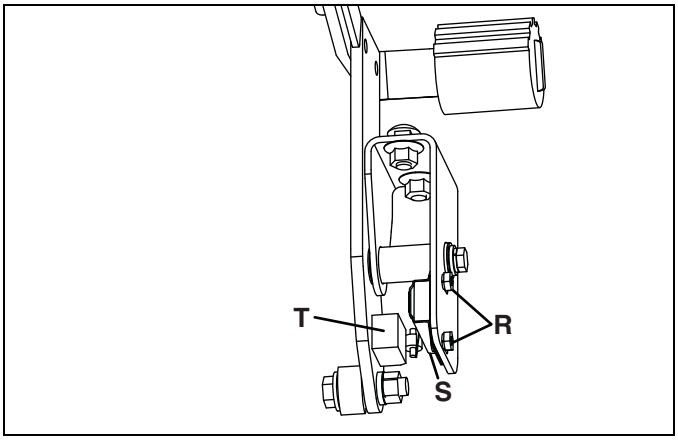


Figure 3I

3.11 STEERING TOE IN

"Toe in" should be adjusted from X + 1/16 in. (1.5 mm).

1. Turn wheels to straight ahead position.
2. Loosen tie rod jam nuts (U).
3. Adjust tie rod and retighten jam nuts.
4. After adjusting "Toe in" it may be necessary to re-adjust steering stop bolts.

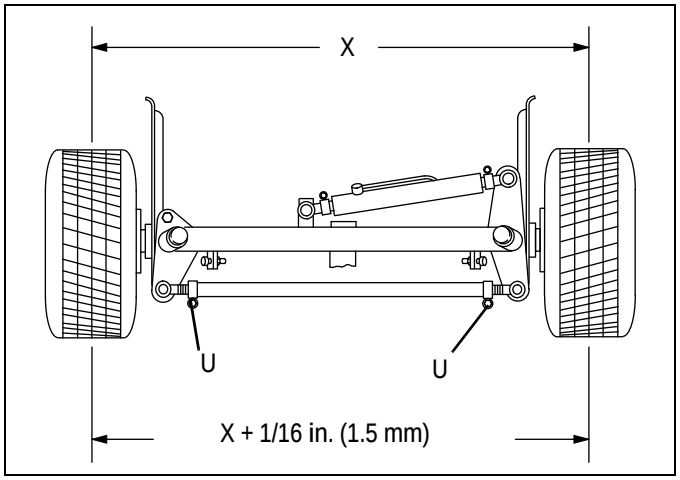


Figure 3J

3.12 TURNING RADIUS

1. Adjust steering cylinder (V) for equal angle steering in both directions. Check that ball joints are threaded equally into both ends.
2. Loosen both nuts (Y) and turn bolts completely in against mounting block.
3. Loosen screw and nut (W) on locking clamp. Turn cylinder rod to obtain desired length then retighten hardware.
4. Fully extend and retract steering cylinder and readjust steering stop bolts.

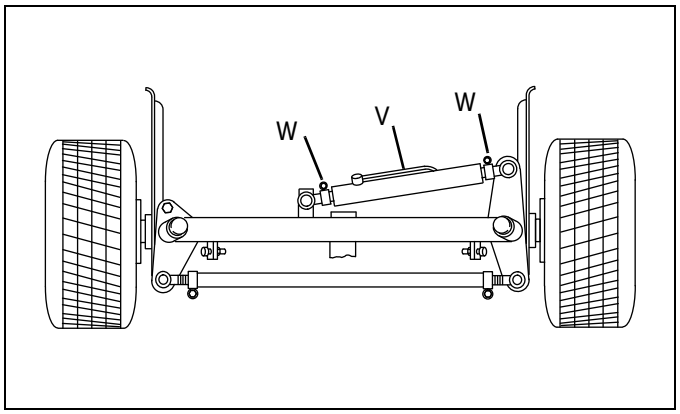


Figure 3K

3.13 STEERING STOP BOLTS

Do not adjust the stop bolts until the "Toe in" and steering cylinder have been adjusted.

1. Loosen both nuts (Y) and turn bolts completely in against mounting block.
2. Fully retract steering cylinder. Adjust left side stop bolt until it just touches steering arm. Tighten left side nut (Y).
3. Fully extend steering cylinder. Adjust right side stop bolt until it just touches steering arm. Tighten right side nut (Y).

NOTE: *Steering stop bolts must not limit the travel of the steering cylinder rod stroke.*

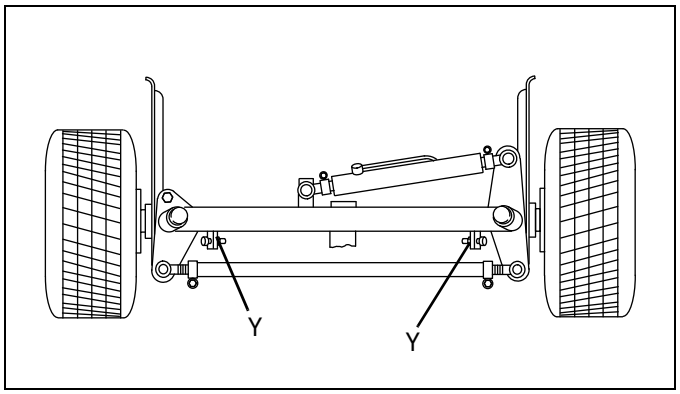


Figure 3L

3.14 CUTTING HEIGHT

Level the front mower before setting the cutting height for the first time. Do not remove the cutting units from the mower to change cutting height.

Cutting height for decks can be adjusted from 1 to 5-1/2 in. (25-140 mm) in 1/2 in. (13 mm) increments. Actual cutting height may vary somewhat from the heights given depending on turf conditions, tire variances and other factors.

NOTICE

When cutting undulating areas, lower cutting heights may cause scalping. Adjust height accordingly to prevent turf damage.

1. Park the mower on a flat, level surface. Raise the decks until the caster wheels are raised off the ground enough so caster wheels can be removed from deck. Place blocks under decks so they are supported on all sides.

⚠ WARNING

To prevent serious injury, lower deck until it is resting completely on the supports. This will prevent it from accidentally lowering while making adjustments. Disengage all drives, engage parking brake, stop engine, and remove ignition key.

2. Figure 3M shows the height adjustment decal for the casters.

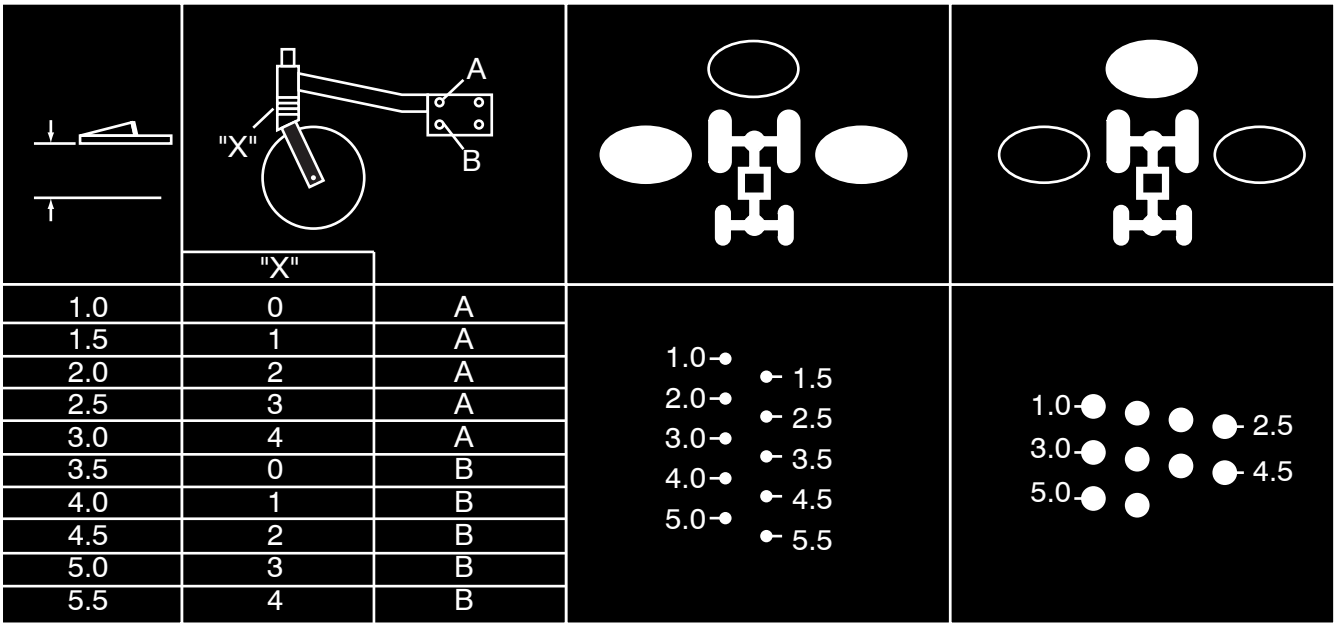
   Column 1 - Height of Cut
   Column 2 - Arrangement of Spacers
   Column 3 - Arm Position
   Column 4 - Wing Mower Mounting Location
   Column 5 - Front Mower Mounting Location

3. Adjust spacers in quantity listed. Store extra spacers on top of spindle. Always leave one thin spacer above and below caster arm.

4. For cutting heights 3 in. (76 mm) and below, caster arms should be assembled to upper set of holes (A). For cutting heights above 3 in. (76 mm), caster arms should be assembled to lower set of holes (B).

NOTICE

After setting cutting height, fully lower cutting units onto a flat, hard surface, stop engine, and measure the distance from the blade tips to the ground. If the distance is different from the desired cutting height, make adjustments as necessary. Cut in a small test area and make any final adjustments for desired turf appearance.



	"X"	
1.0	0	A
1.5	1	A
2.0	2	A
2.5	3	A
3.0	4	A
3.5	0	B
4.0	1	B
4.5	2	B
5.0	3	B
5.5	4	B

Figure 3M

3.15 LEVELING FRONT MOWER

1. Before leveling the front deck, the mower tires, and caster wheels must be properly inflated. The cutting height is directly related to the radius of the tire.
2. Set the cutting height of the front mower to 5-1/2 in. (140 mm).
3. Rotate all blades so that one end of the blade (A) is pointing forward.
4. Fully lower front deck. Measure from the ground to point (A) and from the ground to point (B). Point (B) must be 1/8 in. (3 mm) higher than point (A).
5. Add or remove shims (C) as required between bumper pad (D) and lift arm (E).
6. Once the front mower has been properly leveled, the cutting height may be readjusted without changing the shims. It may be necessary to re-level the deck if there is a change to the tires.

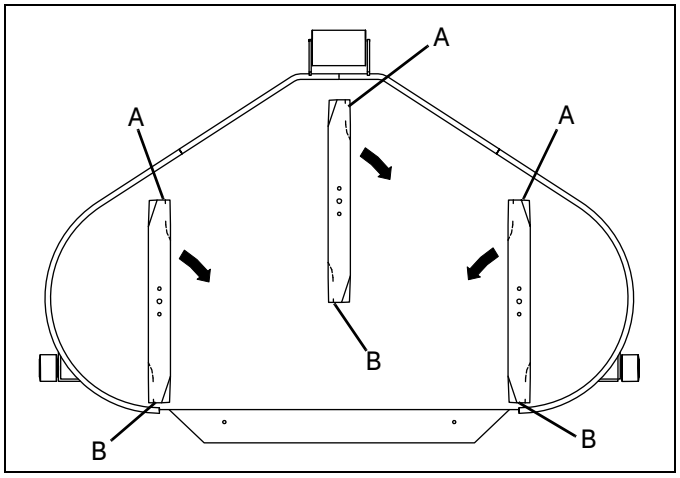


Figure 3N

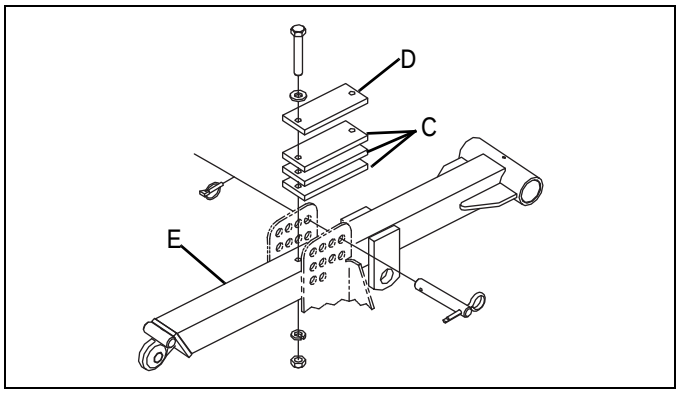


Figure 3O

3.16 SERVICING FRONT DECK

The front deck can be raised and tilted up to improve access to the cutting unit and blades for service and cleaning. Be sure to disengage all drives, engage parking brake, stop engine and remove ignition key before working around deck.

To tilt front deck up to its service position:

1. Fully raise front and right wing deck. Stop engine.
2. Remove height of cut pins from front deck and carefully lift deck to a perpendicular position.
3. Use height of cut pin on left front lift arm to pin deck in service position.
4. Start engine and lower front deck to the ground. Stop engine and remove ignition key.

To return deck to service:

1. Start engine and fully raise front deck. Stop engine. Remove pin from left front lift arm and slowly lower front deck.
2. Install height of cut pins in correct set of holes. Start engine and lower front deck.

3.17 TORQUE SPECIFICATION

NOTICE

All torque values included in these charts are approximate and are for reference only. Use of these torque values is at your sole risk. Jacobsen is not responsible for any loss, claim, or damage arising from the use of these charts. **Extreme caution should always be used when using any torque value.**

Jacobsen uses Grade 5 Plated bolts as standard unless otherwise noted. For tightening plated bolts use the value given for lubricated.

AMERICAN NATIONAL STANDARD FASTENERS

SIZE	UNITS	GRADE 5		GRADE 8		SIZE	UNITS	GRADE 5		GRADE 8	
		Lubricated	Dry	Lubricated	Dry			Lubricated	Dry	Lubricated	Dry
#6-32	in-lb (Nm)	–	20 (2.3)	–	–	7/16-14	ft-lb (Nm)	37 (50.1)	50 (67.8)	53 (71.8)	70 (94.9)
#8-32	in-lb (Nm)	–	24 (2.7)	–	30 (3.4)	7/16-20	ft-lb (Nm)	42 (56.9)	55 (74.6)	59 (80.0)	78 (105)
#10-24	in-lb (Nm)	–	35 (4.0)	–	45 (5.1)	1/2-13	ft-lb (Nm)	57 (77.2)	75 (101)	80 (108)	107 (145)
#10-32	in-lb (Nm)	–	40 (4.5)	–	50 (5.7)	1/2-20	ft-lb (Nm)	64 (86.7)	85 (115)	90 (122)	120 (162)
#12-24	in-lb (Nm)	–	50 (5.7)	–	65 (7.3)	9/16-12	ft-lb (Nm)	82 (111)	109 (148)	115 (156)	154 (209)
1/4-20	in-lb (Nm)	75 (8.4)	100 (11.3)	107 (12.1)	143 (16.1)	9/16-18	ft-lb (Nm)	92 (124)	122 (165)	129 (174)	172 (233)
1/4-28	in-lb (Nm)	85 (9.6)	115 (13.0)	120 (13.5)	163 (18.4)	5/8-11	ft-lb (Nm)	113 (153)	151 (204)	159 (215)	211 (286)
5/16-18	in-lb (Nm)	157 (17.7)	210 (23.7)	220 (24.8)	305 (34.4)	5/8-18	ft-lb (Nm)	128 (173)	170 (230)	180 (244)	240 (325)
5/16-24	in-lb (Nm)	173 (19.5)	230 (26.0)	245 (27.6)	325 (36.7)	3/4-10	ft-lb (Nm)	200 (271)	266 (360)	282 (382)	376 (509)
3/8-16	ft-lb (Nm)	23 (31.1)	31 (42.0)	32 (43.3)	44 (59.6)	3/4-16	ft-lb (Nm)	223 (302)	298 404	315 (427)	420 (569)
3/8-24	ft-lb (Nm)	26 (35.2)	35 (47.4)	37 (50.1)	50 (67.8)	7/8-14	ft-lb (Nm)	355 (481)	473 (641)	500 (678)	668 (905)

METRIC FASTENERS

SIZE	UNITS	4.6		8.8		10.9		12.9		Non Critical Fasteners into Aluminum
		Lubricated	Dry	Lubricated	Dry	Lubricated	Dry	Lubricated	Dry	
M4	Nm (in-lb)	–	–	–	–	–	–	3.83 (34)	5.11 (45)	2.0 (18)
M5	Nm (in-lb)	1.80 (16)	2.40 (21)	4.63 (41)	6.18 (54)	6.63 (59)	8.84 (78)	7.75 (68)	10.3 (910	4.0 (35)
M6	Nm (in-lb)	3.05 (27)	4.07 (36)	7.87 (69)	10.5 (93)	11.3 (102)	15.0 (133)	13.2 (117)	17.6 (156)	6.8 (60)
M8	Nm (in-lb)	7.41 (65)	9.98 (88)	19.1 (69)	25.5 (226)	27.3 (241)	36.5 (323)	32.0 (283)	42.6 (377)	17.0 (150)
M10	Nm (ft-lb)	14.7 (11)	19.6 (14)	37.8 (29)	50.5 (37)	54.1 (40)	72.2 (53)	63.3 (46)	84.4 (62)	33.9 (25)
M12	Nm (ft-lb)	25.6 (19)	34.1 (25)	66.0 (48)	88.0 (65)	94.5 (70)	125 (92)	110 (81)	147 (108)	61.0 (45)
M14	Nm (ft-lb)	40.8 (30)	54.3 (40)	105 (77)	140 (103)	150 (110)	200 (147)	175 (129)	234 (172)	94.9 (70)

3.18 SPECIFIC TORQUE

Tie Rod Ball Joints (2): 30 ft lb. (40 Nm).
Steering Cylinder Ball Joints (2): 40 ft lb (54 Nm).
Blade Adapter Bolts (14): 35 - 40 ft lb (47 - 54 Nm).
Center Blade Bolts (7): 67-83 ft lb (91-112 Nm).
Rear Wheel Bolts (10): 40 - 50 ft lb (54 - 68 Nm).
Front Wheel Bolts (10): 85-95 ft lb (115 - 129 Nm)

4 MAINTENANCE

4.1 GENERAL

⚠ WARNING

Before you clean, adjust, or repair this equipment, disengage all drives, lower implements to the ground, engage parking brake, stop engine, and remove key from ignition switch to prevent injuries.

Make sure the mower is parked on a solid and level surface. Never work on a mower that is supported only by the jack. Always use jack stands.

1. Adjustment and maintenance should always be performed by a qualified technician. If proper adjustments cannot be made, contact an Authorized Jacobsen Dealer.
2. Inspect the equipment on a regular basis, establish a maintenance schedule and keep detailed records.
   a. Keep the equipment clean.
   b. Keep all moving parts properly adjusted and lubricated.
   c. Replace worn or damaged parts before operating the machine.
   d. Keep all fluids at their proper levels.
   e. Keep shields in place and all hardware securely fastened.
   f. Keep tires properly inflated.
3. Long hair, jewelry, or loose fitting clothing may get tangled in moving parts.
4. Use the illustrations in the Parts Catalog as reference for the disassembly and reassembly of components.
5. Recycle or dispose of all hazardous materials (batteries, fuel, lubricants, anti-freeze, etc.) according to local, state, or federal regulations.

4.2 INSPECTING BLADES

1. Every 50 hours of operation or whenever blades are removed from mower, carefully examine the blades to make sure they are in good operating condition. Blades showing any bends (G), grooves (H) or cracks (J) must be replaced.

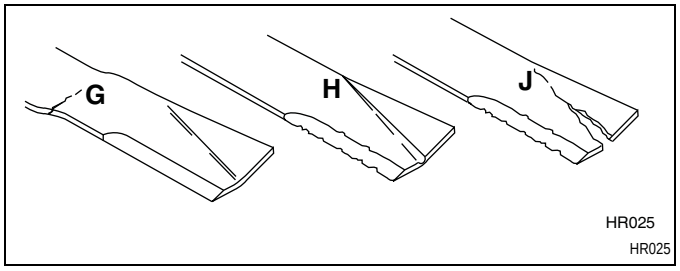
⚠ CAUTION

Use care when checking blades to avoid pinching hands and fingers between blade ends.

⚠ WARNING

Never attempt to straighten, weld, or repair a damaged blade. Always replace a damaged blade.

2. Any of the above conditions can cause a piece of the blade to break away and be thrown from the mower causing very serious injury to bystanders or property damage.
3. A bent blade could have a microscopic crack (G) that can grow and allow a piece of the blade to break. Bent blades will also create vibration and other stress on the machinery.
4. Dust or sand particles can wear a dangerous groove in the blade (H) between the air vanes and the flat portion of the blade that will rapidly grow and produce a crack (J) permitting a piece of the vane to break off.



HR025

Figure 4A

4.3 SHARPENING BLADES

1. Place a wooden block between the blade and mower housing to stop the blade from moving. To remove blade, turn screw holding blade counterclockwise.

⚠ WARNING

The mower blades can develop sharp edges. Use caution whenever servicing and handling.

2. When dressing or sharpening the blade, do not follow the original pattern of grind as shown in (A). Grind new cutting edges at an angle as shown in (B).

   If the maximum total loss of the blade reaches 1/2 in. (13 mm), do not sharpen further, replace blade.

⚠ WARNING

Resharpening the blade beyond the allowable 1/2 in. (13 mm) may allow blade tip to break off and be thrown from the mower. Such an incident can cause very serious injury to bystanders and/or property damage.

3. Make sure an equal amount of material is removed from both sides of blade to prevent having an unbalanced blade. An unbalanced blade will cause excessive vibration and may damage the mower.
4. Use a blade balancer (JAC 5016) to check the blade after sharpening.
5. Identify the three clockwise rotation (D) and four counter-clockwise rotation (E) blades. The blades for clockwise rotation are installed on the left front deck motor, the outside left wing deck motor, and the inside right wing deck motor. (Rotation is determined by normal motor rotation viewed from top of deck).
6. Install blades so cutting edges (C) face the direction of rotation as shown in Figure 4C. Air vane of blade must face in toward deck housing.

   Torque center mounting screw holding blade to 75 ft. lb. (102 Nm).

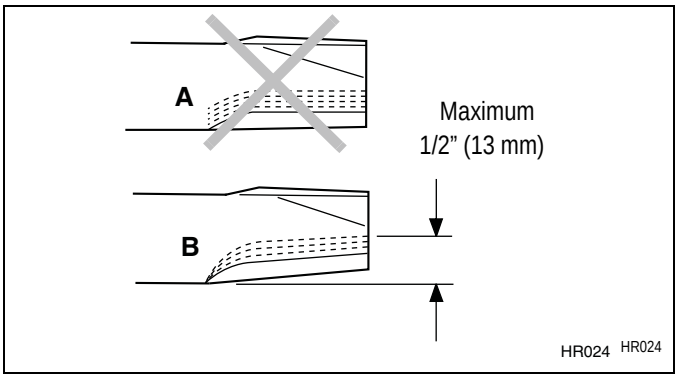
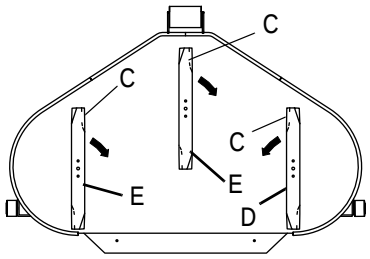
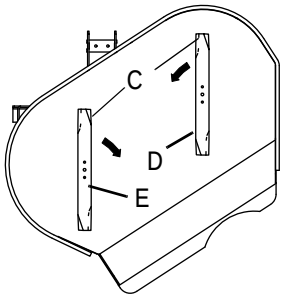


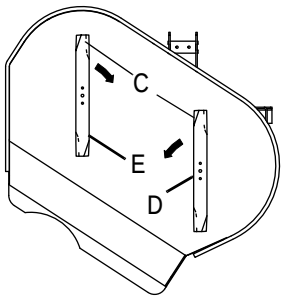
Figure 4B



Bottom view of front deck in its service position



Left Side



Right Side

Bottom view of side decks raised to their transport position.

Figure 4C

4.4 ENGINE

IMPORTANT: A separate Engine Manual, prepared by the engine manufacturer, is supplied with this mower. Read the Engine Manual carefully until you are familiar with the operation and maintenance of the engine. Proper attention to the engine manufacturer's directions will assure maximum service life of the engine. To order replacement engine manuals contact the engine manufacturer.

The proper break-in of a new engine can make a considerable difference to the performance and life of the engine.

NOTICE

The mower is designed to operate and cut most efficiently at the preset governor setting. Do not change the engine governor settings or overspeed the engine.

During the break-in period, Jacobsen recommends the following:

1. During the first 50 hours of operation, a new engine should be allowed to reach an operating temperature of at least 140°F (60°C) prior to operation at full load.
2. Check the engine oil level twice daily during the first 50 hours of operation. Higher than normal oil consumption is not uncommon during the initial break-in period.
3. Change engine oil and oil filter element after first 25 hours of operation.
4. Check and adjust fan and alternator belts.
5. Refer to Section 6.3 and Engine Manual for specific maintenance intervals.

If the injection pump, injectors, or the fuel system require service, contact an authorized Jacobsen Dealer.

Important: *The normal engine operating temperature is less than 220° F (104° C). If the engine temperature rises by more than 10° F (6° C) above normal, there is an indication that the cooling system may not be functioning properly.*

The warning horn will sound when the temperature reaches 230° F (110° C). To prevent damage to the engine, never allow the engine to operate above 230° F. Stop the machine, disengage all drives and operate the engine at low idle for 5 minutes.

4.5 ENGINE OIL

Check the engine oil at the start of each day before starting the engine. If the oil level is low, remove oil filler cap, and add oil as required.

Perform initial oil change after first 25 hours of operation and every 100 hours thereafter. See Engine Manual.

Use only engine oils with API classification CD/CE.

Above 77°F (25°C)	SAE 30W or SAE 10W30/10W40
32 to 77°F (0 to 25°C)	SAE 20W or SAE 10W30/10W40
Below 32° (0°C)	SAE 10W or SAE 10W30/10W40

See the engine manufacturer's Engine Manual for detailed service information.

After adding or changing oil, start and run engine at idle with all drives disengaged for 30 seconds. Shut engine off. Wait 30 seconds and check oil level. Add oil to bring up to FULL mark on dipstick.

4.6 AIR FILTER

Do not remove the element for inspection or cleaning. Unnecessary removal of the filter increases the risk of injecting dust and other impurities into the engine.

Air cleaner servicing is required when air cleaner service light (F) comes on during normal operation. Empty dust cup daily.

When service is required, first clean the outside of the filter housing, then remove the old element as gently as possible and discard.

1. Carefully clean the inside of the filter housing without allowing dust into the air intake.
2. Inspect the new element. Do not use a damaged element and never use an incorrect element.
3. Assemble the new element and make sure it seats properly.
4. Reassemble cap making sure it seals completely around the filter housing. Dust evacuator must be facing down.
5. Check all hoses and air ducts. Tighten hose clamps.

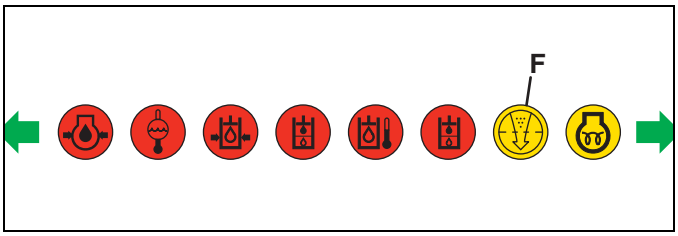


Figure 4D

4.7 FUEL

Handle fuel with care - it is highly flammable. Use an approved container, the spout must fit inside the fuel filler neck. Avoid using cans and funnels to transfer fuel.

⚠ WARNING

Never remove the fuel cap from the fuel tank or add fuel when the engine is running or while the engine is hot.

Do not smoke when handling fuel. Never fill or drain the fuel tank indoors.

Do not spill fuel. Clean spilled fuel immediately.

Never handle or store fuel containers near an open flame or any device that may create sparks and ignite the fuel or fuel vapors.

Be sure to reinstall and tighten fuel cap securely.

- Fill the fuel tank to within 1 in. (25 mm) of the bottom of the filler neck.
- Store fuel according to local, state, or federal ordinances and recommendations from your fuel supplier.
- Never overfill or allow the tank to become empty.
- Check fuel lines and clamps every 50 hours. Replace fuel lines and clamps at the first sign of damage.
- Use clean, fresh, #2 low or ultra-low sulfur Diesel fuel. Minimum Cetane rating 45. Refer to Engine Manual for additional information.

4.8 FUEL SYSTEM

Refer to Section 6.3 for specific maintenance intervals.

Before replacing any filter, thoroughly clean the filter housing, and the area around the filter. Dirt must not be allowed to enter into fuel system.

For diesel engines, turn the key switch to the ON position to start the fuel pump, and bleed the fuel system if the fuel filter and lines have been removed or the fuel tank has become empty. See Engine Manual.

4.9 BATTERY

Make absolutely certain the ignition switch is OFF and the key has been removed before servicing the battery.

⚠ CAUTION

Always use insulated tools, wear protective glasses or goggles, and protective clothing when working with batteries. You must read and obey all battery manufacturer's instructions.

Tighten cables securely to battery terminals and apply a light coat of silicone dielectric grease to terminals and cable ends to prevent corrosion. Keep vent caps and terminal covers in place.

Check the electrolyte level every 100 hours. Keep the cable ends, battery, and battery posts clean.

Verify battery polarity before connecting or disconnecting the battery cables.

1. When installing the battery, always assemble the RED, positive (+) battery cable first and the ground, BLACK, negative (-) cable last.
2. When removing the battery, always remove the ground, BLACK, negative (-) cable first and the RED, positive (+) cable last.
3. Make sure battery is properly installed and secured to the battery tray.

⚠ WARNING

Battery posts, terminals, and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and reproductive harm. Wash your hands after handling.

4.10 JUMP STARTING

Before attempting to "jump start" the mower check the condition of the discharged battery. See Section 4.9

⚠ WARNING

Batteries generate explosive hydrogen gas. To reduce the chance of an explosion, avoid creating sparks near battery. Always connect the negative jumper cable to the frame of the mower with the discharged battery away from the battery.

When connecting jumper cables:

1. Stop the engine on the vehicle with a good battery.
2. Connect RED jumper cable to the positive (+) terminal on the good battery and to the positive (+) terminal on the "discharged" battery.
3. Connect the BLACK jumper cable from the negative (-) terminal on the good battery to the frame of the mower with the discharged battery.

After cables have been connected, start the engine on the vehicle with the good battery then start the mower.

4.11 CHARGING BATTERY

⚠ WARNING

Charge battery in a well ventilated area. Batteries generate explosive gases. To prevent an explosion, keep any device that may create sparks or flames away from the battery.

To prevent injury, stand away from battery when the charger is turned on. A damaged battery could explode.

1. Refer to Section 4.9. Read the Battery and Charger's manual for specific instructions.
2. Whenever possible, remove the battery from the mower before charging. If battery is not sealed, check that the electrolyte covers the plates in all the cells.
3. Make sure the charger is "Off". Then connect the charger to the battery terminals as specified in the charger's manual.
4. Always turn the charger "Off" before disconnecting charger from the battery terminals.

4.12 HYDRAULIC HOSES

⚠ WARNING

To prevent serious injury from hot, high pressure oil, never use your hands to check for oil leaks, use paper or cardboard.

Hydraulic fluid escaping under pressure can have sufficient force to penetrate skin. If fluid is injected into the skin it must be surgically removed within a few hours by a doctor familiar with this form of injury or gangrene may result.

NOTICE

Care must be used at all times to avoid any contamination of the hydraulic system. Follow recommended maintenance practices and adhere to scheduled intervals for hydraulic oil and filter changes. Introduction of any type of contamination may result in operating issues by causing valves to stick or leak internally.

1. Always lower implements to ground, disengage all drives, engage parking brake, stop engine, and remove key before inspecting or disconnecting hydraulic lines or hoses.
2. Check visible hoses and tubes daily. Look for wet hoses or oil spots. Replace worn or damaged hoses and tubes before operating the machine.
3. The replacement tube or hoses must be routed in the same path as the existing hose, do not move clamps, brackets, or ties to a new location.
4. Thoroughly inspect all tubes, hoses, and connections every 250 hours.

   IMPORTANT: The hydraulic system can be permanently damaged if the oil becomes contaminated. Before disconnecting any hydraulic component, clean the area around the fittings and the hose ends to keep impurities out of the system.

   a. Before disconnecting any hydraulic component, tag or mark the location of each hose then clean the area around the fittings.
   b. As you disconnect the component, be prepared to assemble plugs or caps to the hose ends and open ports. This will keep impurities out of the hydraulic system and also prevent oil spills.
   c. Make sure “O” rings are clean and hose fittings are properly seated before tightening.
   d. Keep the hose from twisting. Twisted hoses can cause couplers to loosen as the hose flexes during operation resulting in oil leaks.
   e. Kinked or twisted hoses can restrict the oil flow causing the system to malfunction and the oil to overheat and also lead to hose failure.

4.13 HYDRAULIC OIL

Refer to Section 6.3 for specific maintenance intervals.

Drain and replace the hydraulic oil after a major component failure, if you notice the presence of water or foam in the oil, or a rancid odor (indicating excessive heat).

Always replace the hydraulic filter when changing oil.

To change hydraulic oil:

1. Clean the area around the oil cap to prevent impurities from entering and contaminating the system.
   a. Oil temperature should be between 60° to 90°F (16° to 32°C). Do not check oil level when oil is hot.
   b. The main oil tank level should be 2 inches below filler neck. Do not overfill.
2. Drain and replace the hydraulic oil yearly or after a major component failure, or if you notice the presence of water, foam, or a rancid odor.
3. Remove drain plug from bottom of main tank and loosen or remove breather cap. Check and clean the breather cap, replace as necessary.
4. After oil has drained install drain plug and fill with Jacobsen Hydraulic oil.
5. Purge air from system.
6. Operate all mower functions for about 5 minutes to purge air out of the system and stabilize the oil level. Fill tank to full level.

4.14 HYDRAULIC OIL FILTERS

The hydraulic system is protected by two 10 micron filters.

⚠ WARNING

Charge filter is under pressure. Remove filter slowly to prevent personal injury.

To replace hydraulic oil filter:

1. Remove the old filter.
2. Fill new filter with oil then install new filter. Hand tighten only.
3. Operate engine at idle speed with hydraulic system in neutral for five minutes.
4. Check hydraulic oil level and fill as required.

4.15 ELECTRICAL SYSTEM

⚠ CAUTION

Always turn the ignition switch off and remove the negative battery cable (Black) before inspecting or working on the electrical system.

General precautions that can be taken to reduce electrical problems are listed below.

1. Make certain all terminals and connections are clean and properly secured.
2. Check the Interlock System, and circuit breakers regularly.

   If the Interlock System does not function properly and the problem cannot be corrected contact an authorized Jacobsen Dealer.
3. Keep the wire harness and all individual wires away from moving parts to prevent damage.
4. Make sure the seat switch harness is connected to the main wire harness.
5. Check the battery and battery charging circuit.
6. Do not wash or pressure spray around electrical connections and components.

4.16 MUFFLER AND EXHAUST

⚠ WARNING

Exhaust fumes contain carbon monoxide that is toxic and can be fatal when inhaled.

NEVER operate an engine without proper ventilation.

To protect from carbon monoxide poisoning, inspect the complete exhaust system regularly, and always replace a defective muffler.

If you notice a change in the color or sound of the exhaust, stop the engine immediately. Identify the problem and have the system repaired.

Torque all exhaust manifold hardware evenly. Tighten or replace exhaust clamps.

4.17 TIRES

1. Keep tires properly inflated to prolong tire life. Check inflation pressure while the tires are cool. Inspect tread wear.
1. Check the pressure with an accurate, low pressure tire gauge.
2. Keep tires inflated to:

   Front - 16-20 psi - (110-138 kPa)

   Rear - 10-12 psi (69-83 kPa)

   Casters - 20-25 psi (138-172 kPa)

⚠ CAUTION

Unless you have the proper training, tools, and experience, DO NOT attempt to mount a tire on a rim. Improper mounting can produce an explosion which may result in serious injury.

4.18 WHEEL MOUNTING PROCEDURE

⚠ WARNING

Make sure the mower is parked on a solid and level surface. Never work on a mower that is supported only by the jack. Always use jack stands.

If only the front or rear of the mower is raised, place chocks in front of and behind the wheels that are not raised.

1. Remove dirt, grease, and oil from stud thread. Do not lubricate threads.
2. Position wheel on hub and inspect to insure full contact between mounting surface of wheel and hub.
3. Finger tighten all hardware then torque hardware in criss-cross order; always tighten nuts in the top position.
4. Check and retorque daily until torque is maintained. See Section 3.18.

4.19 CARE AND CLEANING

Wash the mower and implements after each use. Keep the equipment clean.

NOTICE

Do not wash any portion of the equipment while it is hot or with engine running. Do not use high pressure spray or steam. Use cold water and automotive cleaners.

1. Use compressed air to clean engine and radiator fins. A special blow gun is available through your Jacobsen Dealer.
2. Use only fresh water for cleaning your equipment.

NOTICE

Use of salt water or affluent water has been known to encourage rust and corrosion of metal parts resulting in premature deterioration or failure. Damage of this nature is not covered by the factory warranty.

3. Do not spray water directly at the instrument panel, ignition switch, controller, or any other electrical components, or at bearing housings and seals.
4. Clean all plastic and rubber trim with a mild soap solution or use commercially available vinyl/rubber cleaners.

Repair damaged metal surfaces and use Jacobsen touch-up paint. Wax the equipment for maximum paint protection.

⚠ CAUTION

Clean grass and debris from cutting units, drives, muffler, and engine to prevent fires.

⚠ WARNING

NEVER use your hands to clean cutting units. Use a brush to remove grass clippings from blades. Blades are extremely sharp and can cause serious injuries.

4.20 ROLLOVER PROTECTION STRUCTURE (ROPS)

A Rollover Protection System (ROPS) is included with this mower. Inspect it periodically and follow operating procedures described in Safety and Operation Manual.

⚠ CAUTION

Do not loosen or remove bolts, do not weld, drill, modify, bend, or straighten a damaged structure.

1. The seat, the seat belt, mounting hardware, and any accessories within the ROPS should be inspected regularly and all damaged parts replaced immediately.
2. Once the ROPS has been subjected to any form of impact it should be replaced.
3. Check and retorque all hardware. All replacement components used for the ROPS must be as specified in the Jacobsen Parts List.
4. Only operate the mower with the ROPS folded when absolutely necessary. There is no roll over protection with the ROPS folded.
5. Seat belts must be worn whenever operating the mower with the ROPS in the raised and locked position. Always keep seat belt snugly adjusted. DO NOT use seat belts with the ROPS folded.

4.21 RADIATOR AND OIL COOLER

⚠ WARNING

To prevent serious bodily injury from hot coolant or steam blow-out, never attempt to remove the radiator cap while the engine is running. Stop the engine and wait until it is cool. Even then, use extreme care when removing the cap.

⚠ CAUTION

Do not pour cold water into a hot radiator. Do not operate engine without a proper coolant mixture. Install cap and tighten securely.

1. Check coolant level daily. Radiator should be full and recovery bottle should be up to the cold mark.
2. Drain and refill annually. Remove the radiator cap, open the engine block drain and the radiator drain. Empty and clean the recovery bottle.
3. Mix clean water with ethylene glycol based anti-freeze for the coldest ambient temperature. Read and follow the instructions on the anti-freeze container and engine manual.
4. Keep the hood and screen clean. Remove leaves or grass clippings from screen daily.
5. Loosen wing nuts on side of oil cooler and tilt oil cooler back to cleaning position.
6. Open trap door under the radiator and oil cooler, then place a piece of cardboard, to act as a deflector, between the radiator and oil cooler.

⚠ WARNING

To prevent burns, do not touch muffler or muffler shield when opening trap door. Surface temperatures may exceed 150° F (66° C).

7. Use compressed air, up to 30 psi (206 kPa), to clean the radiator and oil cooler fins. A special blow gun (JAC 5098) is available through an Authorized Jacobsen Dealer.
8. Direct air through the engine side of radiator towards rear of mower and through rear of oil cooler towards the front of mower.
9. Remove cardboard and return oil cooler to its upright position. Tighten wing nuts. Clean the entire compartment underneath the radiator and close trap door.
10. Check and tighten the fan belt. Replace clamps and hoses every two years.
11. If you continue to experience engine or hydraulic system overheating, have to add coolant more than once a month, or add more than one quart at a time, have a authorized Jacobsen Dealer check the cooling system.

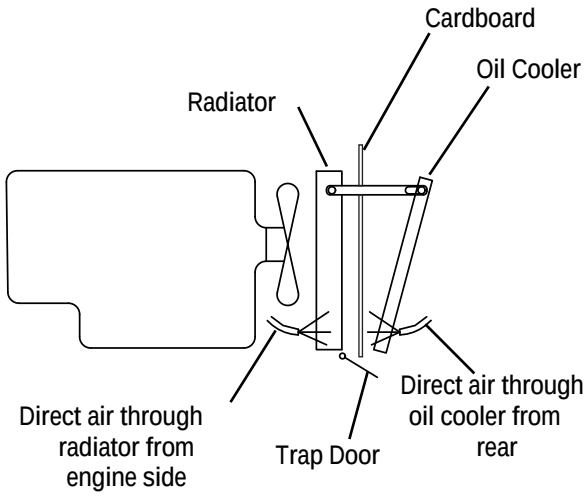


Figure 4E

4.22 STORAGE

General

1. Wash the mower thoroughly and lubricate. Repair and paint damaged or exposed metal.
2. Inspect the mower, tighten all hardware, replace worn or damaged components.
3. Drain and refill radiator.
4. Clean the tires thoroughly and store the mower so the load is off the tires. If mower is not on jack stands, check tires at regular intervals and reinflate as necessary.
5. Keep the machine and all its accessories clean, dry and protected from the elements during storage. Never store equipment near an open flame or spark which could ignite fuel or fuel vapors.

Battery

1. Remove, clean and store battery in upright position in a cool, dry place.
2. Check and recharge battery every 60 to 90 days while in storage.
3. Store batteries in a cool, dry place. To reduce the self discharge rate, room temperature should not be above 80°F (27°C) or fall below 20°F (-7°C) to prevent electrolyte from freezing.

Engine (General)

1. While the engine is warm, remove the drain plug, drain the oil from the crankcase, and change oil filter. Install drain plug and refill with fresh oil. Let engine cool before storing.
2. Clean exterior of engine. Paint exposed metal or apply a light coat of rust preventative oil.
3. Add a fuel conditioner or biocide to prevent gelling or bacterial growth in fuel. See your local fuel supplier.
4. If storing indoors, drain fuel from tank.
5. Close fuel shut off valve.

Cutting Units

1. Wash the cutting units thoroughly, then repair and paint any damaged or exposed metal.
2. Lubricate all fittings and friction points.

⚠ CAUTION

To prevent personal injury and damage to the cutting edges, handle the blades with extreme care.

After Storage

1. Check and reinstall battery.
2. Check or service fuel filter and air cleaner.
3. Check the radiator coolant level.
4. Check oil level in the engine crankcase and hydraulic system.
5. Fill the fuel tank with fresh fuel. Open fuel shut off valve and bleed the fuel system.
6. Make certain that the tires are properly inflated.
7. Remove all oil from the reels and bedknife. Adjust bedknife and cutting height.
8. Start and operate the engine at 1/2 throttle. Allow enough time for the engine to become properly warmed and lubricated.

⚠ WARNING

Never operate the engine without proper ventilation; exhaust fumes can be fatal when inhaled.

5 TROUBLESHOOTING

5.1 GENERAL

The troubleshooting chart below lists basic problems that may occur during start-up and operation. For more detailed information regarding the hydraulic and electrical systems contact your area Jacobsen Dealer.

Symptoms	Possible Causes	Action
Engine will not start.	1. Parking brake disengaged, traction pedal not in neutral or PTO switch on.	1. Check Interlock system and start-up procedure.
	2. Battery low on charge or defective.	2. Inspect condition of battery and battery connections.
	3. Fuel tank empty or dirty. Fuel shut off valve closed.	3. Fill with fresh fuel. Change fuel filter. Bleed fuel lines. Open fuel shut off valve.
	4. Circuit breaker blown.	4. Reset circuit breaker.
Engine hard to start or runs poorly.	1. Fuel level low, fuel or fuel filter dirty.	1. Fill with fresh fuel. Change fuel filter. Bleed fuel lines.
	2. Air cleaner dirty.	2. Inspect and replace air filter.
	3. Injectors, fuel pump.	3. Consult engine manual.
	4. Engine problem.	4. Consult engine manual.
Engine stops.	1. Fuel tank empty.	1. Fill with fresh fuel and bleed fuel lines.
	2. Interlocks not set before leaving operator's seat.	2. Engage parking brake, set reel switch to OFF and traction pedal in Neutral.
Engine overheating.	1. Coolant level low.	1. Inspect and add coolant.
	2. Air intake restricted.	2. Clean cooling air intake.
	3. Water pump belt broken or loose.	3. Tighten or replace belt.
	4. Engine overload.	4. Reduce forward speed.
Battery not holding charge.	1. Loose or corroded battery terminals.	1. Inspect and clean terminals.
	2. Low electrolyte.	2. Refill to correct level.
	3. Alternator belt loose or broken.	3. Tighten or replace belt.
	4. Charging system defective.	4. See engine manual.
Mowers do not cut or cut unevenly.	1. Cutting units not fully lowered.	Lower cutting units to ground.
	2. Engine speed too low.	Check engine speed. Run engine at full throttle.
	3. Low hydraulic oil.	Check reservoir level and fill if needed.
Mower does not react to traction pedal.	1. Parking brake engaged.	Disengage parking brake.
	2. Tow Valve Open.	Close Tow Valve.
	3. Low hydraulic oil.	Check reservoir level and fill if needed.
Implement does not raise or lower.	1. Low hydraulic oil.	Check reservoir level and fill as needed.
Gauges/Indicator not operating.	1. Circuit Breaker blown.	Reset circuit breaker, check bulb.
	2. Loose wiring.	Check electrical connections.

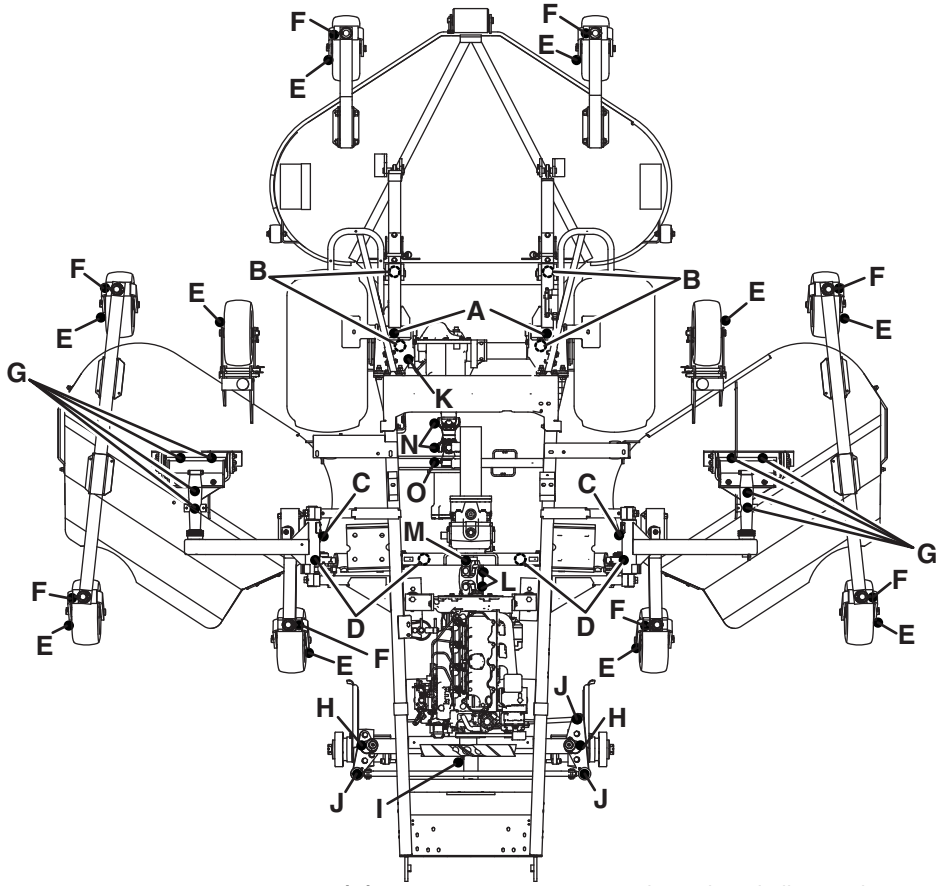
6.1 GENERAL

⚠ WARNING

Before you clean, adjust, or repair this equipment disengage all drives, lower implements to the ground, engage parking brake, stop engine, and remove key from ignition switch to prevent injuries.

1. Always clean the grease fitting before and after lubricating.
2. Lubricate with grease that meets or exceeds NLGI Grade 2 LB specifications. Apply grease with a manual grease gun and fill slowly until grease begins to seep out. Do not use compressed air guns.
3. Periodically apply a small amount of lithium based grease to the seat runners.
4. For smooth operation of all levers, pivot points and other friction points that are not shown on the lubrication chart apply several drops of SAE 30 oil every 40 hours or as required.
5. Grease fittings every 25 hours.

6.2 LUBRICATION CHART



	Description	Fittings			
A	Front mower arm pivot	(2)	H	Steering Axle Spindle Housing	(2)
B	Front lift cylinders	(4)	I	Steering Axle Pivot	(1)
C	Wing mower arm pivot	(2)	J	Steering Axle Ball Joints	(4)
D	Wing mower lift cylinders	(4)	K	Brake Pedal Pivot	(1)
E	Caster Wheels	(10)	L	Pump Drive Shaft Crosses	(2)
F	Caster Arms	(8)	M	Pump Drive Shaft Spline	(2)
G	Deck Pivot Housing	(8)	N	Axle Drive Shaft Crosses	(2)
			O	Axle Drive Shaft Spline	(1)

6.3 MAINTENANCE CHARTS

Recommended Service and Lubrication Intervals

	Every 8-10 Hours	Every 25 Hours	Every 100 Hours	Every 250 Hours	Every 400 Hours	Every 500 Hours	Every 1000 Hours	Yearly	See Section	Lubricant Type
Air Filter (Cab)	I			R						
Air Filter (Engine)	I							R****	4.6	
Battery Charge		I							4.9	
Belts	I-A*	I-A				R			4., 3.2	
Brake		I-A	A						3.4	
Cooling System	I-C-A							R	4.21	IV
Electrical System		I*	I						4.15	
Engine Oil	I	R*	R						4.5	II
Engine Oil Filter		R*	R							
Front Axle	I-A							R		V
Fuel System		I							4.8	
Fuel Filter								R	4.8	
Grease Fittings - All	L	L	L			L			6.2	I
Hydraulic Hoses and Tubes	I***			I					4.12	
Hydraulic Oil	I-A			R**					4.13	III
Hydraulic Oil Filter (2)		R*		R****					4.14	
Muffler and Exhaust		I							4.16	
Radiator Screens	I-C/AR								4.21	
Tires	I-A	A							4.17	

A - Add or Adjust C - Clean I - Inspect L- Lubricate R - Replace AR - As Required

* Indicates initial service for new machines.

** Or every two years whichever comes first.

*** Inspect visible hoses and tubes for leaks or oil marks.

**** Or when service indicator light comes on.

I - Manual grease gun with NLGI Grade 2 (Service Class LB).

II - Engine Oil - See Section 4.5.

III - Use Jacobsen hydraulic fluid: Capacity: 5 gallons (19 Liters). Order Part No. 2500548 carton, containing two 2-1/2 gal. (9.5 liter) bottles or Part No. 2500546 containing 5 gal. (19 liters), pail.

IV - Capacity: 3qt. (2.8 l) 50/50 water ethylene glycol mix.

V - Capacity 2 Quarts 80W-90 gear lube with 5 oz. of limited slip additive.

8 PARTS LIST

8.1 HOW TO USE THE PARTS CATALOG

Abbreviations

N/S - Not serviced seperately, can only be obtained by ordering main component or kit.

AR -Variable quantity or measurement is required to obtain correct adjustment.

Symbols such as l, next to the item number, indicate that a note exists which contain additional information important in ordering that part.

Indented Items

Indented items indicate component parts that are included as part of an assembly or another component. These parts can be ordered separetely or as part of the main component.

Item	Part No.	Qty	Description	Serial Numbers/Notes
l 1	123456	1	Mount, Valve	*Indicates a piece part*
2	789012	1	Valve, Lift	*Includes Items 2 and 3*
3	345678	1	• Handle	*Serviced part included with Item 2*
4	N/S	1	• Seal Kit	*Non serviced part included with Item 2*
5	901234	1	Screw, 1/4-20 x 2" Hex Head	

8.2 HOW TO ORDER PARTS

1. Write your full name and complete address on the order.
2. Explain where and how to make shipment.
3. Give product number, name and serial number that is stamped on the name plate or serial plate of your product.
4. Order by the quantity desired, the part number, and description of the part as given in the parts list.
5. Send or bring the order to an authorized Jacobsen Distributor.
6. Inspect all shipments on receipt. If any parts are damaged or missing file a claim with the carrier before accepting.
7. Do not return material without a letter of explanation listing the parts being returned. Transportation charges must be prepaid.

Use of other than Jacobsen authorized parts will void the warranty.

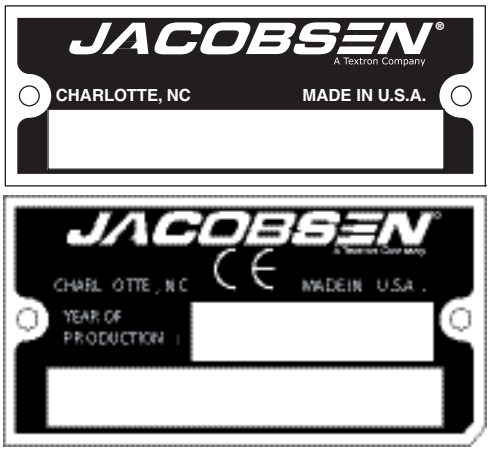
VORWORT

Denne manual indeholder instruktioner i justering, vedligeholdelse og fejlfinding samt en reservedelsliste til din nye Jacobsen-maskine. Denne manual skal opbevares sammen med udstyret til reference under brug.

Bevor Sie Ihre Maschine in Betrieb nehmen, sollten Sie und alle für Sie arbeitenden Bediener beide Handbücher sorgfältig durchlesen. Durch Befolgung der Sicherheits-, Betriebs- und Wartungsanweisungen können Sie die Lebensdauer der Maschine verlängern und ihre maximale Leistungsfähigkeit erhalten.

Für zusätzliche Information wenden Sie sich bitte an Ihren Jacobsen-Händler.

Serienummerpladen er placeret på højre bagskærm. Jacobsen anbefaler, at du noterer nedenstående numre af hensyn til nem reference.



Forslag til lagerliste

For at sikre, at Deres udstyr altid er fuldstændigt driftsklart og produktivt, anbefaler Jacobsen, at De sørger for at have en beholdning af de mest almindeligt anvendte vedligeholdelsesprodukter. Vi har medtaget reservedelsnumre for yderligere støttematerialer og træningsudstyr.

Hvis De ønsker at bestille nogle af nedenstående materialer, skal De:

1. Skrive deres fulde navn og adresse på bestillingssedlen.
2. Forklare hvortil og hvordan forsendelsen skal foretages:
   q UPS q Almindelig post
   q løbet af 24 timer q øbet af 48 timer
3. Bestil ved at anføre den ønskede mængde, reservedelenes numre og en beskrivelse af reservedelen.
4. Send eller indlever ordren til en autoriseret Jacobsen-forhandler.

Servicedele

Ant.	Styknr.	Beskrivelse	Ant.	Styknr.	Beskrivelse
	4113986	Motoroliefilter		555771	Hydraulisk returoliefilter
	549633	Motorluftfilter		2811255	Hydraulisk indsugningsoliefilter
	557619	Motorbrændstoffilter			

Servicestøttemateriale

Ant.	Styknr.	Beskrivelse
	4192120	Sikkerheds- og betjeningsmanual
	4192121	Reservedels- og vedligeholdelsesmanual
	4192126	Reservedelsmanual til dieselmotor Kubota

Ant.	Beskrivelse
	Servicevejledning

Advarsel iht. erklæring 65

Motorudstødning fra dette produkt indeholder kemikalier, som Staten Californien véd forårsager kræft, fødselsskader og anden forplantnings-skade.

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Litho i U.S.A. 2-2009

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1 SIKKERHED

1.1 DRIFTSSIKKERHED

⚠ ADVARSEL

UDSTYR, DER BETJENES FORKERT ELLER AF MEDARBEJDERE UDEN UDDANNELSE, KAN VÆRE FARLIGT.
Gør dig bekendt med alle betjeningsanordningernes placering og korrekte brug. Uerfarne operatører skal undervises af nogen, der er bekendte med udstyret, før de får lov at betjene maskinen.

1. Sikkerheden afhænger af, at de personer, der betjener eller efterser udstyret, udviser opmærksomhed, omtanke og forsigtighed. Tillad aldrig mindreårige at betjene udstyr af nogen art.
2. Det er dit eget ansvar at læse denne vejledning og alle udgivelser, der er tilknyttet dette udstyr (Sikkerheds- og betjeningsmanuel, motormanual og instruktionsark til tilbehør/redskaber). Hvis operatøren ikke kan læse og forstå dansk, er det ejerens ansvar at forklare indholdet af denne vejledning for operatøren.
3. Lær den korrekte betjening af maskinen, placeringen af og formålet med alle betjeningsanordninger og målere at kende, før du betjener udstyret. Arbejde med ukendt udstyr kan medføre ulykker.
4. Tillad aldrig personer, der ikke har modtaget korrekt uddannelse og vejledning, eller som er påvirkede af alkohol eller stoffer, at betjene eller foretage service på maskinen eller dens værktøj.
5. Bær den nødvendige beskyttelsesbeklædning og personligt sikkerhedsudstyr for at beskytte dit hoved, øjne, ører, hænder og fødder. Betjen kun maskinen i dagslys eller i godt, kunstigt lys.
6. Bedøm terrænet, så du kan vælge det nødvendige tilbehør og værktøj til korrekt og sikker udførelse af opgaven. Brug kun tilbehør og værktøj, der er godkendt af Jacobsen.
7. Vær opmærksom på huller i terrænet samt andre skjulte risici.
8. Efterse området, hvor udstyret skal bruges. Saml alt det affald op, du kan finde, før du betjener maskinen. Pas på overhængende forhindringer (lavthængende grene, elkabler osv.) og forhindringer i jorden (sprinklere, rør, trærødder osv.). Vær forsigtig, når du kører på et nyt område. Hold øje med skjulte farer.
9. Udled aldrig materiale mod omkringstående, og tillad ikke personer at komme i nærheden af maskinen, mens den arbejder. Ejeren/ operatøren kan forhindre og er ansvarlig for personskader på sig selv, omkringstående og skader på ejendom.
10. Passagerer må ikke medtages. Hold sikker afstand til omkringstående og kæledyr.
11. Betjen aldrig udstyr, der ikke er i perfekt driftsmæssig stand, eller som mangler mærkater, afskærmninger, skjolde, udblæsningsdeflektorer eller andet beskyttelsesudstyr.
12. Frakobl og omgå ikke kontakter.
13. Lav ikke om på motorens regulatorindstilling, og kør ikke motoren ved for høj hastighed.
14. Kulilte i udstødningsgasserne kan være dødelig, når den indåndes. Lad ikke motoren køre uden korrekt ventilation eller i et indelukket område.
15. Benzin er meget brandfarligt og skal håndteres med forsigtighed.
16. Hold motoren ren. Lad motoren afkøle, før maskinen opmagasineres, og fjern altid tændingsnøglen.
17. Deaktiver alle drev, og aktiver parkeringsbremsen, før motoren startes. Start kun motoren, når du sidder i førersædet, aldrig mens du står ved siden af maskinen.
18. Udstyret skal overholde de seneste føderale, statslige og lokale lovmæssige krav, når det køres eller transporteres på offentlig vej. Hold øje med trafikken, når du krydser eller betjener maskinen på eller i nærheden af veje.
19. Vær opmærksom på, at lokale forskrifter kan angive en mindstealder for operatøren.
20. Betjen maskinen op og ned ad skråninger (lodret), ikke på tværs af dem (vandret).
21. Undgå væltning eller mistet kontrol over maskinen ved at undgå at sætte i gang eller standse pludseligt på skråninger. Sænk hastigheden, når du foretager skarpe drejninger. Udvis forsigtighed, når du ændrer kørselsretning.
22. Brug altid sikkerhedsbælte (ROPS), når du betjener traktorer, der er udstyret med en styrtbøjle.

    Brug aldrig ROPS, når du betjener traktorer uden styrtbøjle.
23. Hold ben, arme og resten af kroppen inden for førerhuset, mens køretøjet er i bevægelse.
24. Frakobl batteriet og styreenhedens elektriske stik, inden der foretages svejsning på denne plæneklipper.

Denne maskine skal betjenes og vedligeholdes som angivet i denne instruktionsbog. Den er beregnet til professionel vedligeholdelse af plæner bestående af specialgræstørv. Den er ikke beregnet til brug på ujævnt terræn eller til lange græsser.

1.2 VIGTIGE BEMÆRKNINGER OM SIKKERHED

Dette sikkerhedssymbol bruges til at advare dig om potentielle farer.

FARE – Angiver en overhængende fare, som, hvis den ikke afværges, VIL medføre død eller alvorlig legemsbeskadigelse.

ADVARSEL – Angiver en potentielt farlig situation, som, hvis den ikke undgås, KAN medføre død eller alvorlig legemsbeskadigelse.

FORSIGTIG – Angiver en potentielt farlig situation, som, hvis den ikke afværges, MÅSKE vil medføre mindre eller moderat tilskadekomst og beskadigelse af materiel. Den kan også bruges til at gøre opmærksom på usikre fremgangsmåder.

– Indikerer en potentielt farlig situation, som KAN medføre tingskade, hvis den ikke undgås. Den kan også bruges til at gøre opmærksom på usikre fremgangsmåder.

Af hensyn til billedforklaringerne kan nogle illustrationer i denne instruktionsbog vise beskyttelsesskjolde, afskærmninger eller plader, åbne eller fjernede. Udstyret må under ingen omstændigheder betjenes, uden at disse enheder er sikkert monteret.

⚠ ADVARSEL

Blokeringssystemet på denne plæneklipper forhindrer plæneklipperen i at starte, medmindre bremsehåndtaget er taget, PTO-kontakt er slået fra, og traktionspedalen er i neutral. Systemet vil standse motoren, hvis operatøren forlader sædet uden at trække parkeringsbremsen eller afbryde PTO-kontakten.

Betjen ALDRIG traktoren, medmindre blokeringssystem fungerer.

⚠ ADVARSEL

1. Før du forlader førersædet, uanset årsag:
   a. Sæt traktionspedalen tilbage til Neutral.
   b. Udkobl alle drev.
   c. Sænk alle redskaber ned på jorden.
   d. Træk parkeringsbremsen.
   e. Stop motoren, og fjern tændingsnøglen.
2. Hold hænder, fødder og tøj væk fra bevægelige dele. Vent, til al bevægelse er standset før rengøring, justering eller servicering af maskinen.
3. Hold alle tilskuere og kæledyr væk fra arbejdsområdet.
4. Tag aldrig passager med i kabinen, medmindre der findes et passagersæde.
5. Betjen aldrig klippeudstyret, uden at udkastskærmen er korrekt påmonteret.

Maskinens levetid forlænges, og dens maksimale arbejdsevne bevares, hvis du følger instruktionerne i denne instruktionsbog. Justering og vedligeholdelse bør altid udføres af en uddannet tekniker.

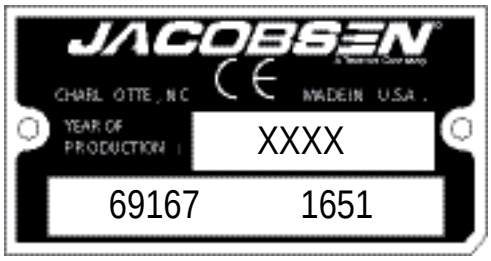
Hvis du har behov for yderligere oplysninger, kan du kontakte den autoriserede forhandler for Jacobsen, som holdes løbende informeret om, hvordan udstyret bedst serviceres i henhold til de seneste metoder, og han kan give dig hurtig og effektiv service. Garantien bortfalder, hvis der anvendes andre reservedele eller andet tilbehør end originale dele fra Jacobsen eller dele, som ikke er godkendt af Jacobsen.

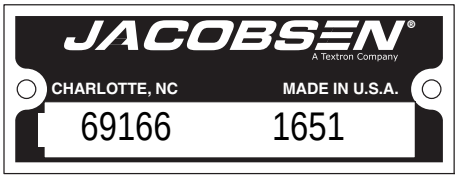
2 SPECIFIKATIONER

2.1 PRODUKTIDENTIFIKATION

69166 ..... R-311 med sammenfoldelig ROPS-styrtbøjle.
69167 ..... R-311 med sammenfoldelig ROPS-styrtbøjle EC.

Serienummer ..... Serienummeret findes på en identificeringsplade, som vist, som er fastgjort til traktorens nær den midterste løftearmsmontage.
Angiv altid enhedens serienummer, når du bestiller reservedele eller ønsker serviceoplysninger.





Produkt	EØF-lydeffekt	Lydtryksniveau ved operatørens øre	Vibrationer M/S^2	
			Arme	Krop
69167	105,4 dBa	87,8 dBa	1,87	0,027

2.2 MOTOR

Fabrikat ..... Kubota
Model V2203-M-E3B
69166 Hestekræfter ..... 33,5 kW @2600 rpm
69167 Hestekræfter ..... 31,4 kW @2450 rpm

Bemærk: *På grund af driftsbegrænsninger og miljømæssige faktorer er den faktiske konstante hestekraft sandsynligvis lavere end angivet i specifikationerne*

Slagvolumen ..... 2197 cc
Cylinderdiameter og slaglængde ..... 87 x 92 mm
Kompressionsforhold 22:1
Tilspændingsmoment ..... 140,7 Nm @ 1600 rpm
Brændstof:
- Type ..... Nr. 2, dieselbenzin med lavt eller ultralavt svovlindhold
- Ampere ..... Min. cetantal 45
- Kapacitet ..... 75,7 liter

Brændstofindsprøjtningspumpe ..... Bosch K minipumpetype
Tændingsindstilling ..... 18° før TC
Regulator ..... Mekanisk centrifugalkugle
- Lav hastighed i tomgang ..... 800 rpm
- Høj hastighed i tomgan ..... 2800 rpm (69166)
- Høj hastighed i tomgan ..... 2450 rpm (69167)

Smøring:
- Kapacitet ..... 9,5 liter med filter
- Type ..... 10W30 med farve
- API-klassificering ..... CD, CE

Luftfilter ..... Tør type med røgsugerventil og serviceindikator
Generator ..... 45 amp
Kølesystem ..... Afkøles væske
- Kapacitet ..... 7,6 l 50/50 vand/ethylenglycol-blanding
- Termostat ..... 95°C

2.3 PLÆNEKLIPPER

Dæk:
- For ..... 26 x 12-12 (6-lags)
- Bag ..... 23 x 10,5-12 (4-lags)

Tryk:
- For ..... 110-138 kPa
- Bag ..... 69-83 kPa

Batteri:
- Type ..... 12 Volt bly/syre
- Gruppe ..... AABM #75NF
- Ampere ..... 750 CCA ved -18°C
- Driftsbremse ..... Pedalbetjent skivebremse
- Parkeringsbremse ..... Pedalbetjent skivebremse
- Differentiale ..... Enkelttrins, begrænset spær

Hastighed:
- Fremad (tohjulstræk) ..... 0 - 24 km/t
- Fremad (firehjulstræk) ..... 0 - 12,5 km/t
- Klippe ..... 0 - 12,4 km/t
- Bak ..... 0 - 9,6 km/t

Hydrauliksystem:
Kapacitet ..... 64,3 liter
Væsketype 10W30
Returfilter ..... Fuld gennemstrømning 10 mikron
Ladefilter ..... Fuld gennemstrømning 10 mikron
Styring ..... Servostyring, baghjul
Klippeenhedslift ..... 3-spolet manuel ventil og dobbeltvirkende cylindre
PTO Kraftudtagsdrev ..... Hydraulik med fast gennemstrømning

2.4 KLIPPEENHEDER

Type.....Tre fuldt svævende klippeenheder
Bredde:
Forreste klippeenhed .....1625 mm
Vingeklippeenheder .....1067 mm

Klippebredde:
Front og begge vinger ..... 3403 mm
Front og en vinge ..... 2514 mm
Kun front..... 1625 mm
Drev ..... Hydraulikmotorer
Klippehøjde..... 25 - 140 mm

2.5 WEIGHTS AND DIMENSIONS

Mål:	mm
Længde	3657
Højde (ROPS)	2134
Højde (ROPS med tag)	2337
Højde (med sammenfoldet ROPS)	1613
Hjulafstand	1722
Bredde – transportposition	2375
Bredde – klippeposition	3530
Afstand fra jorden	203
Drejeradius	838

Vægt:	kg
Med brændstoftanken fyldt og klippeenhederne påmonteret.	
Uden fører	1801

2.6 TILBEHØR & STØTTELITTERATUR

Se reservedelskataloget, og kontakt den lokale Jacobsen-forhandler for at få en komplet liste over tilbehør og redskaber.

⚠ FORSIGTIG

Brug af andre dele end originale eller autoriserede Jacobsen-dele og tilbehør kan forårsage personskader eller beskadigelse af udstyret og gøre garantien ugyldig.

Tibehør

Trykluftspistol	JAC5098
Orange pletmaling (340 ml spray)	554598
Bladkomposteringssæt	69123
Sæt med løftede knive	970198
Sæt med vedligeholdelsefrie dæk	2811453
Tag/Solskærm	68095
Lygtesæt	4194160
Knivafbalanceringsenhed	JAC5016
Førerhus/førerhustilbehør	l
Børste/fejemaskine	u
Snefræser	s

Støttemateriale

Sikkerheds- og betjeningsmanual	4192120
Reservedels- og vedligeholdelsesmanual	4192121
Tilbehørskatalog til dieselmotor	4192126

l Contact: Jodale Perry Corporation
Box 990, 300 Route 100
Morden, Manitoba, Canada R6M 1A8
Telefon: (204) 822-9100
Fax: (204) 822-9111

u Contact: Loftness Specialized Equipment, Inc.
South Highway 4
Hector, MN 55342
Telefon: (800) 848-7624
ATTN Doug Haley

s Contact: M-B Companies, Inc.
1200 S. Park Street, Box 148
Chilton, WI 53014
Telefon: (888) 558-5801
Fax: (414) 849-2109

3 JUSTERINGER

3.1 GENERELT

⚠ ADVARSEL

For at undgå personskader skal redskaberne sænkes ned på jorden, alle drev udkobles, parkeringsbremsen trækkes, motoren standses, og nøglen fjernes fra tændingslåsen, før der foretages nogen justeringer eller udføres vedligeholdelse.

Sørg for, at traktoren er parkeret på en fast og jævn flade. Arbejd aldrig på en traktor, der kun er støttet af donkraften. Brug altid donkraftstativ.

Hvis kun traktorens forende eller bagende er hævet, skal du anbringe bremseklodser foran og bag de hjul, der ikke er hævet.

1. Justeringer og vedligeholdelse skal altid udføres af en uddannet tekniker. Kontakt en autoriseret forhandler af Jacobsen, hvis korrekt justering ikke kan udføres.
2. Udskift, juster ikke, slidte eller beskadigede komponenter.
3. Langt hår, smykker eller løstsiddende tøj kan blive viklet ind i bevægelige dele.

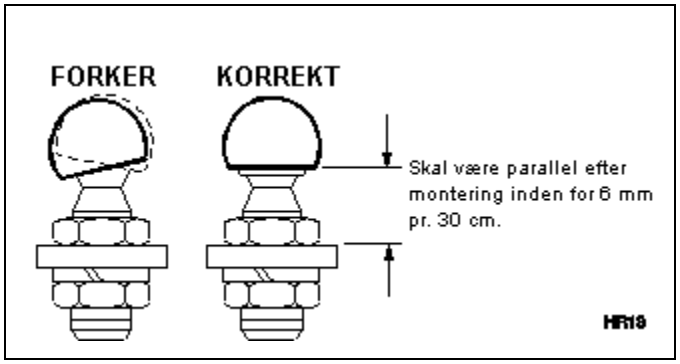
⚠ FORSIGTIG

Vær omhyggelig med at undgå, at hænder og fingre bliver klemt mellem maskinens bevægelige og faste komponenter.

4. Foretag ikke ændringer i regulator-indstillinger, og giv ikke motoren for meget gas.

3.2 KUGLELED

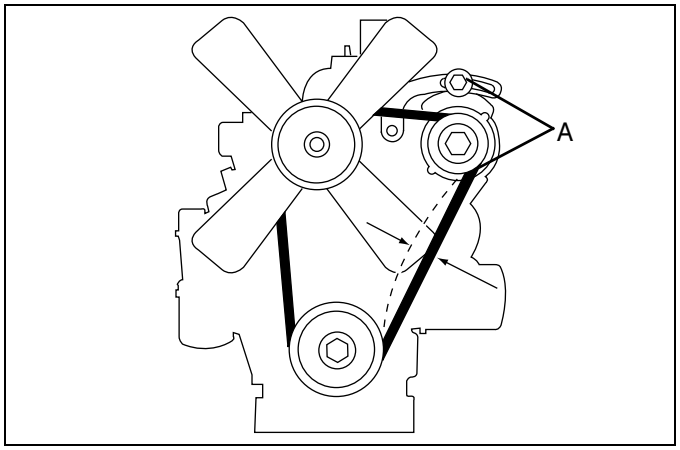
Når du justerer kugleled, skal du sørge for, at fordybningen i kugleleddet er parallel med monteringsbeslaget. Fastgør det dernæst på sin plads.



Figur 3A

3.3 MOTORGENERATORREM

1. Efterse og juster den nye ventilatorrem efter de første 10 timers drift. Efterse og juster for hver 100 timer derefter.
2. Juster generatordrivremmen, så remmen afbøjer 7 - 9 mm med et tryk på 10 kg midt imellem remskiverne. Se brugervejledningen til motoren.
3. Justering: Løsn generatormonteringsboltene (A), og juster generatoren, indtil den rette remspænding opnås.

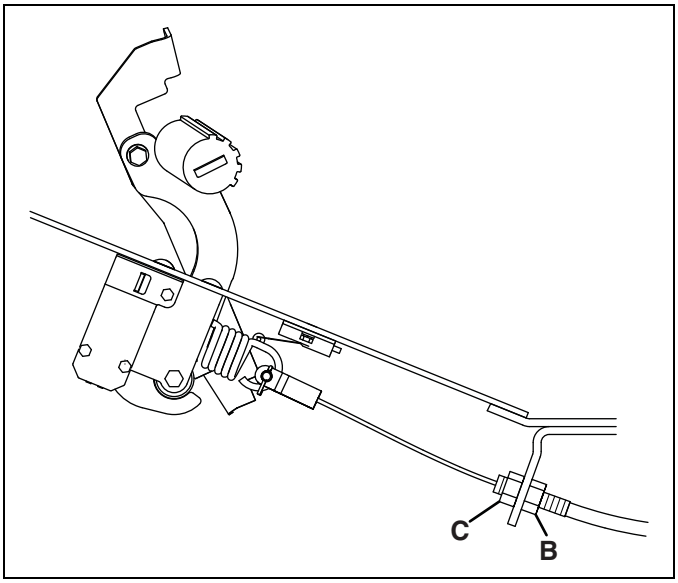


Figur 3B

3.4 BREMSEPEDAL

Indstil bremserne efter udskiftning eller service på bremseenheden, eller hvis pedalvandringen bliver for stor.

1. Når du installerer nye bremseklodser, skal du polere klodserne ved at køre plæneklipperen med almindelig klippehastighed, mens du sætter en let tryk på bremsepedalen i ca. 5 sekunder. Slip, og gentag fem gange, før du udfører den endelige indstilling.
2. Løsn justeringsmøtrikken (C) helt.
3. Træk kablet bag justeringsmøtrikken (B) væk fra pedalen med hånden, indtil bremseklodserne lige akkurat rører ved bremseskiven. Drej justeringsmøtrikken (B) opad, indtil den rører ved monteringspladen. Stram møtrikken (C) for at fastlåse justeringen. Spænd møtrikken (C) til 27 Nm. Undgå at stramme for meget eller at dreje kablet.
4. Gentag proceduren for det andet kabel.
5. Start plæneklipperen, og kontroller, at bremserne fungerer. Parker plæneklipperen på et sted med hældning (ca. 16,7°), og aktiver parkeringsbremsen. Bremsen skal forhindre, at plæneklipperen ruller. Juster møtrikken (B) efter behov.

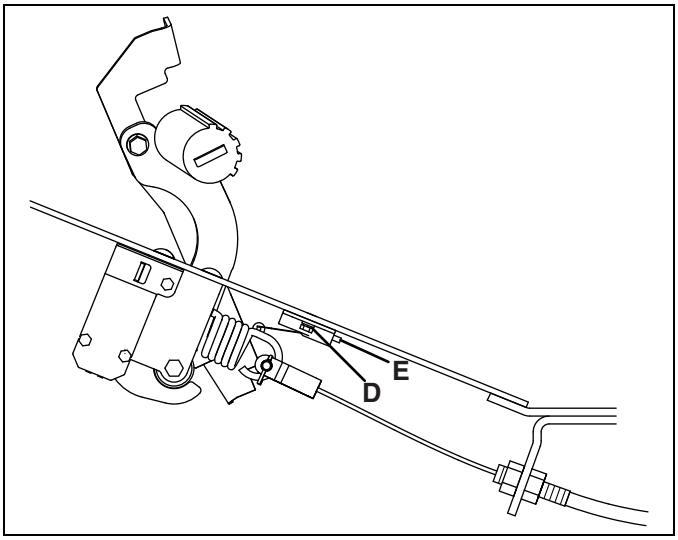


Figur 3C

3.5 KONTAKT TIL PARKERINGSBREMSE

Kontroller parkingsbremsekontaktindstillingen, hvis sikkerhedslåsesystemet ikke fungerer korrekt. Kontaktforbindelserne bør være lukkede, når parkeringsbremsen er aktiveret, og åbne, når parkeringsbremsen er deaktiveret.

1. Løsn parkeringsbremsens mekaniske dele (D).
2. Indstil kontakten (E), så kontaktforbindelserne er lukkede, når parkeringsbremsen er aktiveret, og åbne, parkeringsbremsen er deaktiveret.

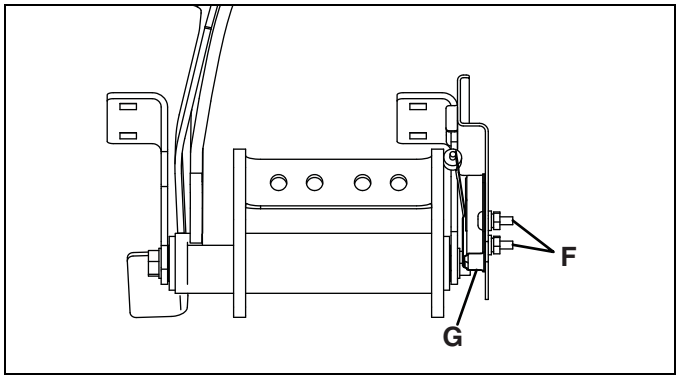


Figur 3D

3.6 FARTPILOTKONTAKT

Hvis fartpiloten ikke deaktiveres, når der trykkes på bremsepedalen, skal fartpilotkontakten indstilles.

1. Løsn de mekaniske dele (F).
2. Indstil kontakten (G), så forbindelserne er lukkede, når bremsen er deaktiveret, og åbne, i samme øjeblik der trykkes på bremsen.
3. Spænd de mekaniske dele for at sikre kontakten, og kontroller kontaktens funktion.

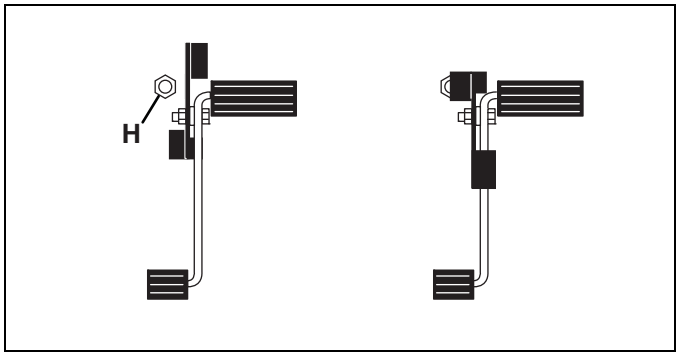


Figur 3E

3.7 PLÆNEKLIPNINGSHASTIGHED

Klippekvaliteten er bedre ved hastigheder et godt stykke under plæneklipperens transporthastighed. Plæne-klipperen er fra fabrikken indstillet til en hastighed på 11,5 til 13,5 km/t, og dette burde passe til de fleste klippeforhold. Lokale plæneforhold kan dog kræve andre hastigheder.

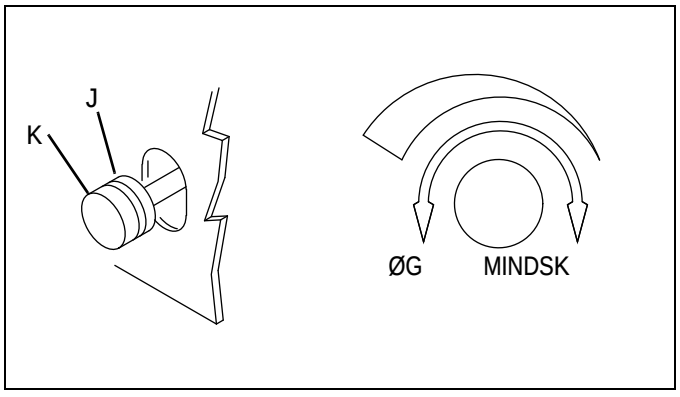
Hvis du vil indstille plæneklipningshastigheden, skal du løsne kontramøtrikken (R) og skrue stopskruen opad for at sænke hastigheden og nedad for at øge hastigheden. Stram møtrikken for at fastlåse indstillingen.



Figur 3F

3.8 VÆGTFORSKYDNING

1. Indstilling af vægtforskydningshåndtaget påvirker løftearmenes sænkningstid, og det påvirker de enkelte dæks tryk mod jorden.
2. Løsn det tynde håndtag (J), og indstil det store håndtag (K) for at øge eller mindske vægten på knivenheden. Håndtaget indstiller alle tre plæneklippere på samme tid.
   a. Øget vægt på klippeenheden betyder, at plæneklipperne følger plænens konturer bedre, og det mindsker maskinens tryk mod jorden.
   b. Mindskning af vægt på knivenheden øger plæneklipperens vægt, hvilket forbedrer vejgrebet på skråninger.
   c. Spænd det tynde håndtag (J), når det ønskede tryk mod jorden er indstillet.



Figur 3G

BEMÆRK!

Hvis knivenhedens vægt er for lav, sænkes vingeknivenhederne ikke til jorden fra transportpositionen.

3.9 HYDRO NEUTRAL

Hvis traktoren "kryber" i den ene eller den anden retning, skal positionen "neutral" justeres. Traktoren har måske en tendens til at "krybe", hvis transmissionsolien er kold. Betjen traktoren i 15 minutter, før du bestemmer, om justering er påkrævet.

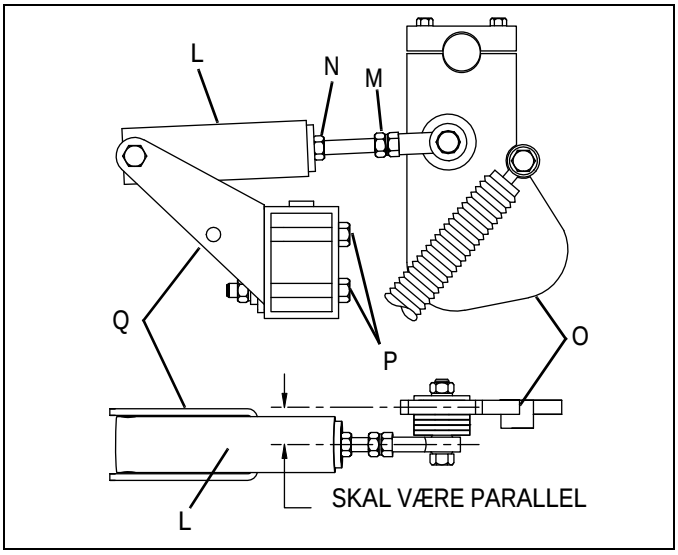
⚠ ADVARSEL

Kulilte i udstødningsgasser-ne kan være dødelig, når den indåndes. Enhver justering eller reparation, der udføres, mens motoren kører, skal foretages med rigelig ventilation.

Arbejd aldrig på et køretøj, der kun er understøttet af en donkraft. Brug altid donkraftstativer.

Hvis kun den ene ende af traktoren er hævet, skal klodser anbringes foran og bag de hjul, der ikke er hævet.

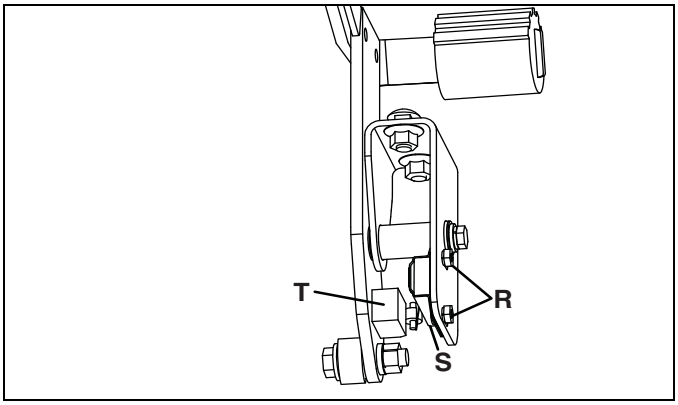
1. Anbring lidt smøreolie på alle forbindelses-drejepunkter.
2. Hejs traktoren op, så alle fire dæk er fri af jorden, og anbring donkraftstativer under stellet for at forhindre, at traktoren sænkes ved et uheld under justering.
3. Start motoren, og indstil gashåndtaget på fuld gas.
4. Udløs parkeringsbremsen, og anbring 2-/4-hjulstrækkontakten i positionen 2-hjulstræk.
5. Efterse drivhjulenes rotation, og juster dernæst traktion-seturkontrollen (L) med motoren kørende.
   a. Justering for forlæns krybning foretages ved at løsne møtrikken (M) og dreje møtrikken (N) ind, indtil hjulene holder op med at dreje rundt. Hold møtrikken (N) på plads, og stram møtrikken (M).
   b. Justering for baglæns krybning foretages ved at løsne møtrikken (M) og dreje møtrikken (N) ud, indtil hjulene holder op med at dreje rundt. Hold møtrikken (N) på plads, og stram møtrikken (M).
6. Efterse positionen for traktionsreturkontrol (L), hvis traktoren fortsætter med at krybe.
   a. Returkontrollen (L) skal være parallel med traktionsarmen (O).
   b. Løsn skruerne (P), og juster beslaget (Q), indtil kontrollen er parallel med armen.



Figur 3H

3.10 BAKFØLERKONTAKT

1. Løsn de mekaniske dele (R).
2. Indstil kontakten (S), så forbindelserne er åbne, når kontaktrullerne er i kontakt med indstillingsblokken (T), og gaspedalen er i Neutral, lukkede, når pedalen bevæges fremad.
3. Lås kontaktindstillingen, og kontroller funktionen.
4. Hvis du ikke kan udføre indstillingen, skal du kontakte en autoriseret Jacobsen-forhandler.

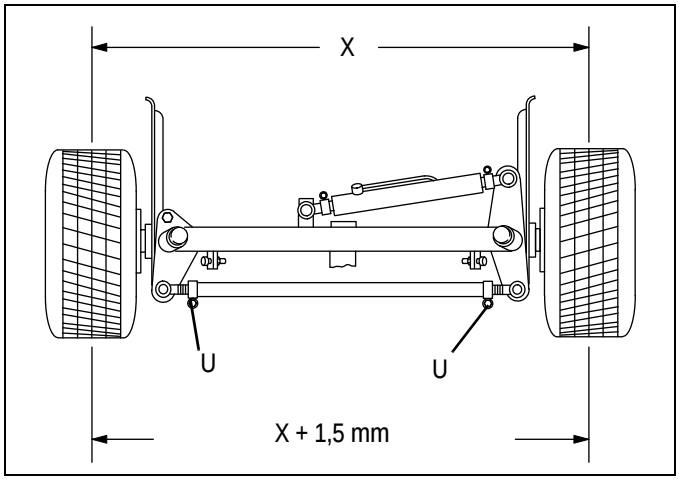


Figur 3I

3.11 STYRETØJETS SPIDSNING

Spidsningen skal justeres fra X ± 1,5 mm.

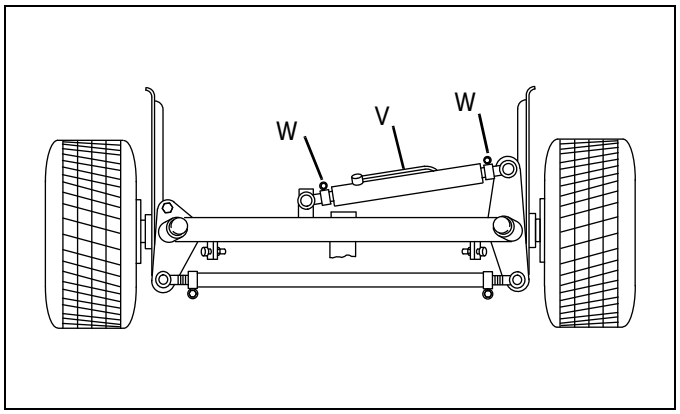
1. Drej hjulene, så de vender lige ud.
2. Løsn to kontramøtrikker på forbindelsesstangen (U).
3. Juster forbindelsesstangen, og tilspænd kontra-møtrikkerne igen.
4. Når du har justeret spidsningen, kan det være nødvendigt at genjustere styretøjets stopbolte.



Figur 3J

3.12 DREJERADIUS

1. Juster styretøjscylinderen (V) for at få lige vinkelststyring i begge retninger. Kontroller, at kugleleddene er skruet lige meget ind i cylinderenderne
2. Løsn begge møtrikker (Y) , og drej boltene helt mod monteringsblokken.
3. Løsn skruen og møtrikken (W) på låseklampen; drej cylinderstangen for at opnå den ønskede længde, og tilspænd dernæst klampbeslaget igen.
4. Træk styretøjscylinderen helt ud og tilbage, og juster styretøjets stopbolte igen.



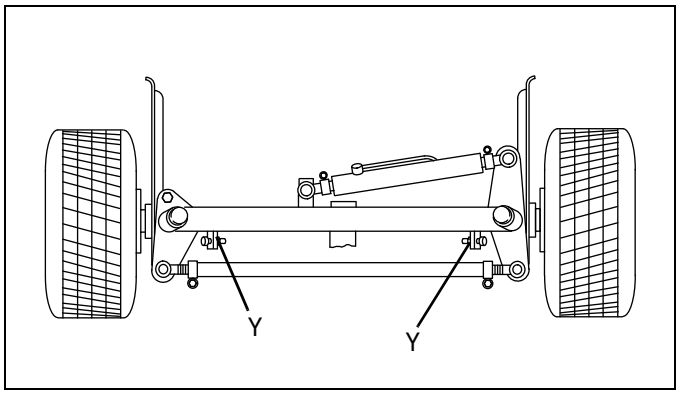
Figur 3K

3.13 STYRETØJETS STOPBOLTE

Juster ikke stopboltene, før spidsningen og styretøjscylinderen er justeret.

1. Løsn begge møtrikker (Y), og drej boltene helt ind mod monteringsblokken.
2. Træk styretøjscylinderen helt tilbage. Juster den venstre stopbolt, indtil den rører ved styrearmen. Stram den venstre møtrik (Y).
3. Stræk styretøjscylinderen helt ud. Juster den højre stopbolt, indtil den rører ved styrearmen. Stram den højre møtrik (Y).

Bemærk: *Styrestopbolte må ikke begrænse ratcylinderstangens vandring.*



Figur 3L

3.14 KLIPPEHØJDE

Niveller den forreste klippeenhed, før klippehøjden indstilles første gang. Fjern ikke klippeenhederne fra traktoren for at ændre klippehøjden.

Klippeenhedernes klippehøjde kan justeres fra 25-140 mm i trin af 13 mm. Den faktiske klippehøjde kan variere noget fra de angivne højder, afhængigt af plæneforholdene og andre faktorer.

BEMÆRK

Når du klipper i bølgede områder, kan lavere klippehøjder forårsage skalpering. Juster højden i overensstemmelse hermed for at forhindre skader på plænen.

1. Parker traktoren på en plan, jævn flade. Hæv klippeenhederne, indtil styrehjulene er hævet nok fra jorden til, at styrehjulene kan fjernes fra klippeenheden. Anbring klodser under klippeenhederne, så de er understøttet på alle sider.

⚠ ADVARSEL

Sænk klippeenheden, indtil den hviler helt på understøtningerne, for at forhindre alvorlige personskader. Dette vil forhindre det i at synke ved et uheld under justering. Udkobl alle drev, aktiver parkeringsbremsen, stop motoren, og fjern tændingsnøglen.

2. Figur 3M viser højdejusteringsmærkaten for styrehjulene.

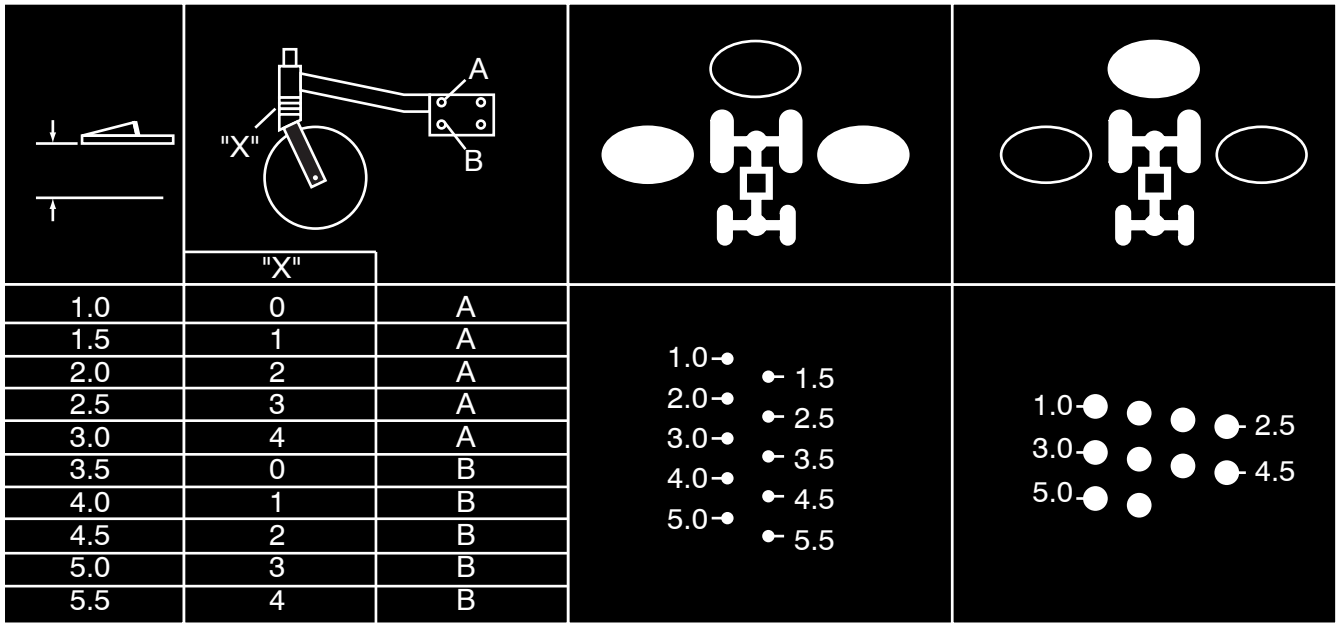
   Kolonne 1 – Klippehøjde
   Kolonne 2 – Afstandsstykkernes placering
   Kolonne 3 – Armens position
   Kolonne 4 – Vingens monteringsplacering
   Kolonne 5 – Den forreste vinges monteringsplacering

3. Juster afstandsstykkerne i den nævnte mængde. Opbevar ekstra afstandsstykker oven på spindelen. Monter altid et tyndt afstandsstykke over og under styrehjulsarmen.

4. Til klippehøjder på 76 mm og derunder, skal styrehjulsarmene monteres i det øverste sæt huller (A). Til klippehøjder på over 76 mm skal styrehjulsarmene monteres i det nederste sæt huller (B).

BEMÆRK

Efter indstilling af klippehøjden, skal klippeenhederne sænkes helt ned på en plan, hård overflade, stop motoren, og mål afstanden mellem klingespidserne til jorden. Hvis afstanden er en anden, end den ønskede klippehøjde, skal de nødvendige justeringer foretages. Klip på et lille testområde, og foretag de sidste justeringer for at opnå den ønskede udseende af græsset.

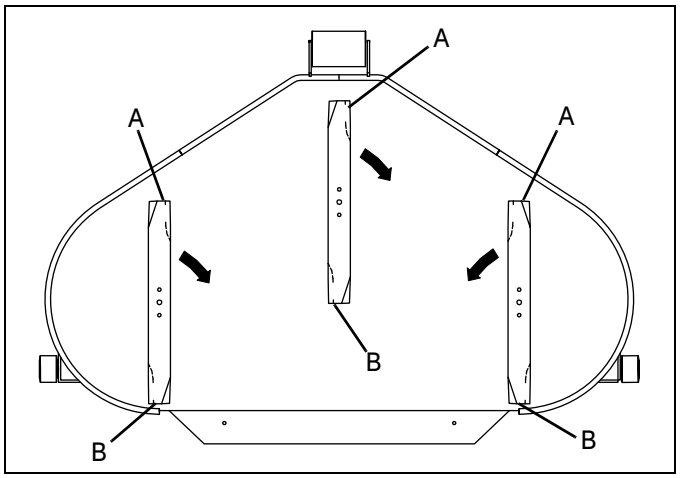


	"X"	
1.0	0	A
1.5	1	A
2.0	2	A
2.5	3	A
3.0	4	A
3.5	0	B
4.0	1	B
4.5	2	B
5.0	3	B
5.5	4	B

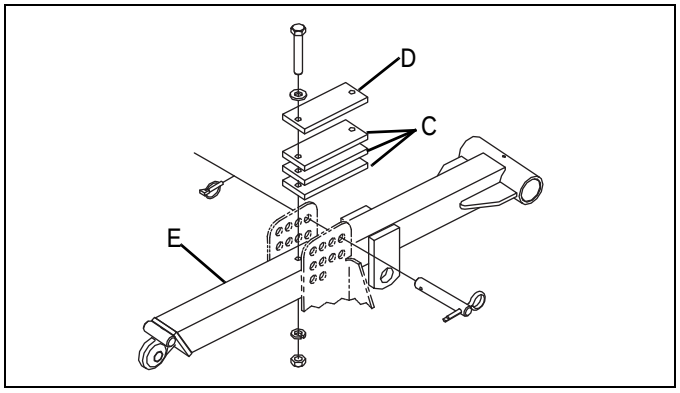
Figur 3M

3.15 NIVELLERING AF DEN FORRESTE KLIPPEENHED

1. Før den forreste klippeenhed nivelleres, skal traktorens dæk og styrehjul pumpes op. Klippehøjden er direkte relateret til dækkets radius.
2. Indstil den forreste klippeenheds klippehøjde til 140 mm.
3. Drej alle knivene, så den ene ende af kniven (A) vender fremad.
4. Sænk den forreste klippeenhed helt. Mål fra jorden til punktet (A) og fra jorden til punktet (B). Punktet (B) skal være 3 mm højere end punktet (A).
5. Monter eller fjern afstandsklodser (C) som påkrævet mellem kofangeren (D) og løftearmen (E).
6. Når først den forreste klippeenhed er korrekt nivelleret, kan klippehøjden indstilles uden, at afstandsklodserne skal udskiftes. Det kan være nødvendigt at genjustere klippeenheden, hvis dækkene ændres.



Figur 3N



Figur 3O

3.16 EFTERSYN AF DEN FORRESTE KLIPPEENHED

Den forreste klippeenhed kan hæves og vippes opad for at forbedre adgangen til klippeenheden og knivene med henblik på eftersyn og rengøring. Sørg for at udkoble alle drev, aktivere parkeringsbremsen, standse motoren og fjerne tændingsnøglen, før du arbejder rundt om klippeenheden.

Sådan vippes det forreste klippeenhed op til servicepositionen:

1. Hæv den forreste klippeenhed og den højre vinge helt. Stop motoren.
2. Fjern klippehøjdepindene fra den forreste klippeenhed, og vip forsigtigt klippeenheden til lodret position.
3. Brug en kæde eller et tykt reb til at binde den forreste højre styrehjulsarm til højre vinge.
4. Start motoren, og sænk den forreste klippeenhed ned på jorden. Stop motoren, og fjern tændingsnøglen.

Sådan sendes klippeenheden til eftersyn:

1. Start motoren, og hæv den forreste klippeenhed helt. Stop motoren. Fjern rebet eller kæden fra den højre vinge, og sænk langsomt den forreste klippeenhed.
2. Monter klippehøjdepindene i de korrekte huller. Start motoren, og sænk den forreste klippeenhed helt.

3.17 DREJNINGSMOMENTSPECIFIKATION

BEMÆRK

Alle drejningsmomentværdier i disse skemaer er cirkaværdier og er kun tænkt som reference. Brug af disse drejningsmomentværdier er på eget ansvar. Jacobsen kan ikke drages til ansvar for eventuelle tab, krav eller skader, der er opstået som følge af anvendelsen af disse skemaer. Man skal altid være yderst forsigtig ved brug af drejningsmomentværdier.

Jacobsen anvender overfladebehandlede bolte af grad 5 som standard, medmindre andet er angivet. Ved stramning af overfladebehandlede bolte, skal den værdi, der er oplyst for smurte bolte, angives.

AMERIKANSKE NATIONALE STANDARDFASTGØRINGSBOLTE

STØR-RELSE	ENHED-ER	GRAD 5		GRAD 8		STØR-RELSE	ENHED-ER	GRAD 5		GRAD 8	
		Smurt	Tør	Smurt	Tør			Smurt	Tør	Smurt	Tør
#6-32	in-lb (Nm)	–	20 (2.3)	–	–	7/16-14	ft-lb (Nm)	37 (50.1)	50 (67.8)	53 (71.8)	70 (94.9)
#8-32	in-lb (Nm)	–	24 (2.7)	–	30 (3.4)	7/16-20	ft-lb (Nm)	42 (56.9)	55 (74.6)	59 (80.0)	78 (105)
#10-24	in-lb (Nm)	–	35 (4.0)	–	45 (5.1)	1/2-13	ft-lb (Nm)	57 (77.2)	75 (101)	80 (108)	107 (145)
#10-32	in-lb (Nm)	–	40 (4.5)	–	50 (5.7)	1/2-20	ft-lb (Nm)	64 (86.7)	85 (115)	90 (122)	120 (162)
#12-24	in-lb (Nm)	–	50 (5.7)	–	65 (7.3)	9/16-12	ft-lb (Nm)	82 (111)	109 (148)	115 (156)	154 (209)
1/4-20	in-lb (Nm)	75 (8.4)	100 (11.3)	107 (12.1)	143 (16.1)	9/16-18	ft-lb (Nm)	92 (124)	122 (165)	129 (174)	172 (233)
1/4-28	in-lb (Nm)	85 (9.6)	115 (13.0)	120 (13.5)	163 (18.4)	5/8-11	ft-lb (Nm)	113 (153)	151 (204)	159 (215)	211 (286)
5/16-18	in-lb (Nm)	157 (17.7)	210 (23.7)	220 (24.8)	305 (34.4)	5/8-18	ft-lb (Nm)	128 (173)	170 (230)	180 (244)	240 (325)
5/16-24	in-lb (Nm)	173 (19.5)	230 (26.0)	245 (27.6)	325 (36.7)	3/4-10	ft-lb (Nm)	200 (271)	266 (360)	282 (382)	376 (509)
3/8-16	ft-lb (Nm)	23 (31.1)	31 (42.0)	32 (43.3)	44 (59.6)	3/4-16	ft-lb (Nm)	223 (302)	298 404	315 (427)	420 (569)
3/8-24	ft-lb (Nm)	26 (35.2)	35 (47.4)	37 (50.1)	50 (67.8)	7/8-14	ft-lb (Nm)	355 (481)	473 (641)	500 (678)	668 (905)

NATIONALE FASTGØRINGSBOLTE

STØR-RELSE	ENHED-ER	4.6		8.8		10.9		12.9		Befæstelsesanordninger, der ikke er af afgørende betydning, til aluminium
		Smurt	Tør	Smurt	Tør	Smurt	Tør	Smurt	Tør	
M4	Nm (in-lb)	–	–	–	–	–	–	3.83 (34)	5.11 (45)	2.0 (18)
M5	Nm (in-lb)	1.80 (16)	2.40 (21)	4.63 (41)	6.18 (54)	6.63 (59)	8.84 (78)	7.75 (68)	10.3 (910	4.0 (35)
M6	Nm (in-lb)	3.05 (27)	4.07 (36)	7.87 (69)	10.5 (93)	11.3 (102)	15.0 (133)	13.2 (117)	17.6 (156)	6.8 (60)
M8	Nm (in-lb)	7.41 (65)	9.98 (88)	19.1 (69)	25.5 (226)	27.3 (241)	36.5 (323)	32.0 (283)	42.6 (377)	17.0 (150)
M10	Nm (ft-lb)	14.7 (11)	19.6 (14)	37.8 (29)	50.5 (37)	54.1 (40)	72.2 (53)	63.3 (46)	84.4 (62)	33.9 (25)
M12	Nm (ft-lb)	25.6 (19)	34.1 (25)	66.0 (48)	88.0 (65)	94.5 (70)	125 (92)	110 (81)	147 (108)	61.0 (45)
M14	Nm (ft-lb)	40.8 (30)	54.3 (40)	105 (77)	140 (103)	150 (110)	200 (147)	175 (129)	234 (172)	94.9 (70)

3.18 SPECIFIKT VRIDNINGSMOMENT

Forbindelsesstangskugleled (2): 40 Nm.
Styrecylinderkugleled (2): 54 Nm.
Knivjusteringsbolte (14): 47 - 54 Nm.
Midterknivbolte (7): 91-112 Nm.
Baghjulsbolte (10): 54 - 68 Nm.
Forhjulsbolte (10): 115 - 129 Nm.

4 VEDLIGEHOLDELSE

4.1 GENERELT

⚠ ADVARSEL

Før du renser, justerer eller reparerer dette udstyr: Udkobl alle drev, sænk redskaber ned på jorden, træk parkeringsbremse, stop motor, og fjern nøgle fra tændingslås for at undgå personskader

Sørg for, at traktoren er parkeret på en fast og jævn flade. Arbejd aldrig på en traktor, som kun er understøttet af donkraften. Brug altid donkraftstativ.

1. Justering og vedligeholdelse skal altid udføres af en uddannet tekniker. Kontakt en autoriseret forhandler af Jacobsen, hvis korrekte justeringer ikke kan udføres.
2. Efterse udstyret regelmæssigt, fastlæg en vedligeholdelsesplan og før detaljeret journal.
   a. Hold udstyret rent.
   b. Hold alle bevægelige dele korrekt justeret og smurt.
   c. Udskift slidte eller beskadigede dele, før maskinen betjenes.
   d. Sørg for, at alle væskestander er korrekte.
   e. Hold skjolde på plads og alle beslag sikkert fastspændte.
   f. Hold dæk korrekt oppumpede.
3. Bær ikke smykker eller løstsiddende tøj, når du foretager justeringer eller reparationer.
4. Brug illustrationerne i Tilbehørskataloget som reference for adskillelse og samling af komponenter.
5. Genbrug eller bortskaf alle farlige materialer (batterier, brændstof, smøremidler, frostvæske etc.) i henhold til lokale, statslige eller føderale regler.

4.2 EFTERSYN AF KNIVE

1. Efter hver 50 timers drift, eller når som helst klippemekanismen fjernes fra traktoren, skal knivene undersøges omhyggeligt for at sikre, at de er i god driftsstand. Knive, der udviser bøjninger af nogen art (G), furer (H) eller revner (J), skal udskiftes.

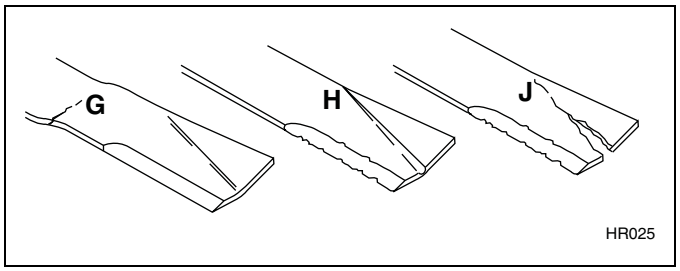
⚠ FORSIGTIG

Vær forsigtig, når du efterser knivene, så du ikke får hænder og fingre klemt mellem knivenderne.

⚠ ADVARSEL

Forsøg aldrig på at udrette, svejse eller reparere en beskadiget kniv. Udskift altid en beskadiget kniv.

2. Enhver af de ovenfor nævnte tilstande kan forårsage, at et stykke af kniven brækker af og kastes ud af klippemekanismen, hvorved det kan forårsage meget alvorlig personskade på omkringstående eller tingsskade.
3. En bøjet kniv kan have en mikroskopisk revne (G), som kan vokse og få bladet til at brække. Bøjede knive forårsager endvidere vibration og anden belastning af maskineriet.
4. Støv- eller sandpartikler kan slide en farlig fure i kniven (H) mellem luftskovlene og den flade del af kniven, som hurtigt vil vokse og skabe en revne (J), så et stykke af skovlen kan brække af.



Figur 4A

4.3 SKÆRPNING AF KNIVE

1. Placér en træklods mellem kniven og klippeskærmen for at forhindre, at kniven kan bevæge sig. Fjern kniven ved at dreje den skrue, der holder kniven, mod uret.

⚠ ADVARSEL

Klippeknivene kan udvikle skarpe kanter. Vær altid forsigtig, når du servicerer eller håndterer dem.

2. Følg ikke det oprindelige slibemønster som vist på (A), når du afretter eller skærper kniven. Slib nye klippeskær i en vinkel som vist på (B).

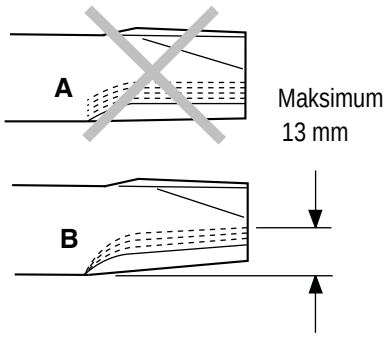
   Hvis den maksimale totale reduktion af knivens størrelse bliver 13 mm, må den ikke skærpes mere, men skal udskiftes.

⚠ ADVARSEL

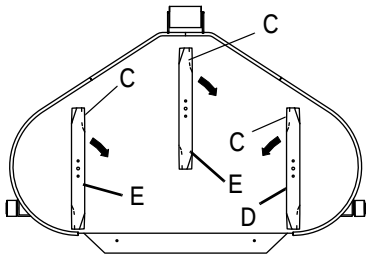
Genskærpelse af kniven udover de tilladte 13 mm kan få knivspidsen til at falde af og blive kastet ud af klippemekanismen. En sådan hændelse kan forårsage meget alvorlig personskade på omkringstående og/eller tingsskade.

3. Sørg for, at der fjernes lige meget materiale fra begge sider af kniven for at forhindre, at kniven bliver ubalanceret. En ubalanceret kniv forårsager for stor vibration og kan beskadige klippemekanismen.
4. Brug en knivbalance (JAC 5016) til at afprøve kniven efter skærpelse.
5. Identificer de tre knive, der roterer med uret (D) og de fire knive, der roterer mod uret (E). De knive, der skal rotere med uret, skal monteres på den forreste klippeenheds venstre motor, den udvendige motor på den venstre vinge, og den indvendige motor på den højre vinge. (Rotationen afgøres af den normale motorrotation set fra toppen af klippeenheden)
6. Monter knivene således, at skærene (C) vender i rotationens retning som vist i Figur 4C. Knivenes ventilatorvinger skal vende ind mod klippeenhedens hus.

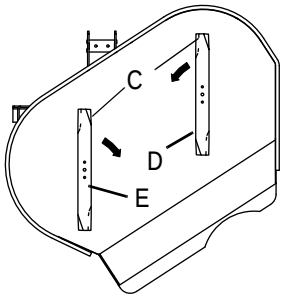
   Spænd centermontageskruen, der fastgør kniven, til 102 Nm.



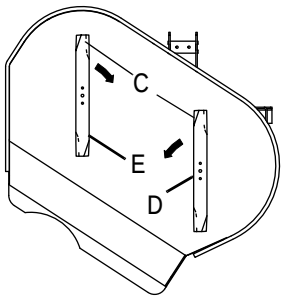
Figur 4B



Frontaggregat i service-position set nedefra



Venstre side



Højre side

Sideaggregater hævet til transportposition set nedefra

Figur 4C

4.4 MOTOR

VIGTIGT: En separat Motorhåndbog udarbejdet af motorfabrikanten leveres sammen med denne traktor. Læs Motorhåndbogen grundigt, indtil du er fortrolig med betjeningen og vedligeholdelsen af motoren. Korrekt opfyldelse af motorfabrikantens anvisninger vil garantere motorens maksimale levetid. Kontakt motorproducenten for at bestille supplerende motorhåndbøger.

Korrekt tilkørsel af en ny motor kan gøre en betydelig forskel for motorens ydeevne og levetid.

BEMÆRK

Traktoren er designet til at arbejde og klippe mest effektivt ved den forudindstillede regulatorindstilling. Flyt ikke om på motorens regulatorindstillinger, og giv ikke motoren for meget gas.

Under tilkørselsperioden anbefaler Jacobsen følgende:

1. Under de første 50 timers brug skal en motor have lov til at nå en driftstemperatur på mindst 60° C, før den opererer med fuld belastning.
2. Check motoroliestanden to gange daglig under de første 50 timers brug. Højere olieforbrug end normalt er ikke ualmindeligt i den indledende tilkørselsperiode.
3. Udskift motorolie og oliefilterelement efter de første 25 timers brug.
4. Check og juster ventilator- og generator-remme.
5. Se Afsnit 6.3 og Motorhåndbog vedrørende specifikke vedligeholdelsesintervaller.

Kontakt en autoriseret forhandler af Jacobsen, hvis indsprøjtningspumpen, brændstofdyser eller brændstofsystemet kræver service.

VIGTIGT: Den normale motordriftstemperatur er lavere end 104°C. Hvis motortemperaturen stiger med mere end 6°C over det normale, indikerer dette, at kølesystemet måske ikke fungerer korrekt.

Advarselshornet lyder, når temperaturen når op på 110°C. Lad aldrig motoren køre ved over 110°C for at forhindre motorskader. Stop maskinen, slå redskaberne fra, og lad motoren køre med lav tomgangshastighed i 5 minutter.

4.5 MOTOROLIE

Check motorolien ved hver dags begyndelse, før motoren startes. Hvis oliestanden er lav, skal påfyldningsdækslet fjernes, og der skal efterfyldes med olie efter behov.

Udfør første olieskift efter de første 25 timers brug og derefter hver 100 timer. Se Motorhåndbog.

Brug kun motorolier med API-klassifikation CD/CE.

Over 25°C	SAE 30W eller SAE10W30/10W40
0°C til 25°C	SAE 20W eller SAE 10W30/10W40
Under 0°C	SAE 10W eller SAE 10W30/10W40

Se motorproducentens ejermanual for at få mere detaljerede oplysninger om eftersyn.

Efter påhældning eller udskiftning af olie, skal motoren startes og køres i tomgang, mens alle drevene er deaktiverede, i 30 sekunder. Stop motoren. Vent 30 sekunder, og kontroller oliestanden. Hæld olie på for at bringe standen op til mærket FULL på oliepinden.

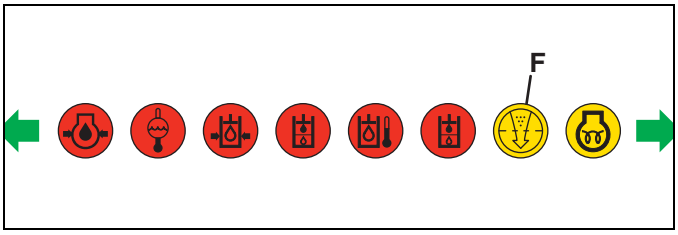
4.6 LUFTFILTER

Fjern ikke elementet med henblik på inspektion eller rensning. Unødig fjernelse af filteret øger risikoen for indblæsning af støv og andre urenheder i motoren.

Eftersyn af luftfilteret er nødvendigt, når luftfilterlampen (F) tændes under normal betjening. Tøm støvhætten dagligt.

Når service er nødvendig: Rengør først ydersiden af filterhuset, og fjern dernæst det gamle element så forsigtigt som muligt, og bortskaf dette.

1. Rengør omhyggeligt indersiden af filterhuset uden at lade støv komme ind i luftindtaget.
2. Efterse det nye element. Brug ikke et beskadiget element, og brug aldrig et ukorrekt element.
3. Monter det nye element, og sørg for, at det sidder korrekt.
4. Sæt dækslet på igen, idet du sikrer dig, at det er helt forseglet rundt om filterhuset. Støvsuger skal vende nedad.
5. Check alle slanger og luftkanaler. Spænd slangeklemmer.



Figur 4D

4.7 BRÆNDSTOF

Brændstof skal behandles med forsigtighed - det er let antændeligt. Brug en godkendt beholder, tuden skal passe ind i brændstofpåfyldningsstudsen. Undgå at bruge dåser og tragter til at overføre brændstof.

⚠ ADVARSEL

Fjern aldrig brændstofdækslet fra brændstoftanken, og påfyld aldrig brændstof, når motoren kører, eller mens motoren er varm.

Ryg ikke, når du håndterer brændstof. Fyld eller tøm aldrig brændstoftanken inden døre.

Vær forsigtig med ikke at spilde brændstof. Hvis der spildes brændstof, skal det straks tørres op.

Håndter eller opbevar aldrig brændstofbeholdere i nærheden af åben ild eller nogen anordning, der kan skabe gnister og antænde brændstoffet eller brændstofdampe.

Sørg for at geninstallere og spænde brændstofdæksel sikkert.

- Fyld brændstoftanken til inden for 25 mm fra bunden af påfyldningsstudsen.
- Opbevar brændstof i henhold til lokale, statslige eller amtslige bestemmelser og anbefalinger fra brændstofleverandøren.
- Overfyld aldrig tanken, og lad aldrig tanken blive tom.
- Check brændstofrør og -klemmer hver 50 timer. Udskift brændstofrør og -spænder ved første tegn på beskadigelse.
- Brug ren, frisk dieselbrændstof nr. 2 med lavt eller ultralavt svovlindhold. Minimum cetantal 45. Se Motorhåndbogen for at få yderligere oplysninger.

4.8 BRÆNDSTOFSYSTEM

Se Afsnit 6.3 vedrørende specifikke vedligeholdelsesintervaller.

Rens filterhuset og området omkring filteret grundigt, før noget filter udskiftes. Der må ikke komme snavs ind i brændstofsystemet.

For dieselmotorer: Drej nøglekontakten til ON (TÆNDT)-position for at starte brændstofpumpen, og aftap brændstofsystemet, efter at brændstoffilteret og -linierne er fjernet, eller brændstoftanken er blevet tom. Se Motorhåndbogen.

4.9 BATTERI

Sørg med absolut sikkerhed for, at tændingslåsen står på „Slukket“, og at nøglen er fjernet, før batteriet serviceres.

⚠ FORSIGTIG

Brug altid isoleret værktøj, bær beskyttelsesbriller eller sikkerhedsbriller og beskyttelsestøj, når du arbejder med batterier. Du skal læse og følge alle batterifabrikantens instruktioner.

Spænd kabler sikkert fast til batteripoler, og påfør poler og kabelender et tyndt lag dielektrisk siliconefedt for at forhindre ætsning. Hold ventilationsdæksler og pol-låg på plads.

Check elektrolytstanden hver 100 timer. Hold kabelenderne, batteri og batteriklemmer rene.

Kontroller batteripolaritet, før batterikabler tilsluttes eller frakobles.

1. Monter altid det RØDE, positive (+) batterikabel først og det SORTE, negative (-) jordkabel til sidst, når batteriet installeres.
2. Fjern altid det SORTE, negative (-) jordkabel først og det RØDE, positive (+) kabel til sidst, når batteriet fjernes.
3. Sørg for, at batteriet er korrekt installeret og sikkert fastgjort til batteribakken.

⚠ ADVARSEL

Batteripoler, klemmer og tilknyttet tilbehør kan indeholde bly og blyforbindelser. Dette er kemikalier, som Staten Californien er vidende om, kan medføre kræft og beskadigelse af reproduktionsorganerne. Vask hænder efter håndtering.

4.10 CHOCKSTART

Check det afladede batteris tilstand, før du forsøger på at chockstarte traktoren. Afsnit 4.9.

⚠ ADVARSEL

Batterier genererer eksplosiv hydrogengas. Undgå at skabe gnister tæt på batteri for at mindske eksplosionsfaren. Tilslut altid det negative startkabel til chassisrammen på traktoren med det afladede batteri, væk fra batteriet.

Når startkabler tilsluttes:

1. Stands motoren på køretøjet med det gode batteri.
2. Tilslut RØDT startkabel til den positive (+) pol på det gode batteri og til den positive (+) pol på det „afladede“ batteri.
3. Tilslut det SORTE hjælpekabel fra den negative (-) pol på det gode batteri til chassisrammen på traktoren med det afladede batteri.

Når kablerne er tilsluttet: Start motoren på køretøjet med det gode batteri, og start dernæst traktoren.

4.11 OPLADNING AF BATTERI

⚠ ADVARSEL

Oplad batteri på et sted med god ventilation. Batterier genererer eksplosionsgasser. Hold flammer væk fra batteriet for at forhindre eksplosion.

Gå væk fra batteriet, når opladeren er tændt, for at undgå personskade. Et beskadiget batteri kan eksplodere.

1. Se Afsnit 4.9. Læs Batteri- og Opladerhåndbogen for at få specifikke instruktioner.
2. Fjern batteriet fra traktoren før opladning, når som helst det er muligt. Check, at elektrolytten dækker anoderne i alle cellerne, hvis batteriet ikke er forseglet.
3. Sørg for, at opladeren er „Slukket“. Tilslut dernæst opladeren til batteripolerne som angivet i Opladerhåndbogen.
4. Sæt altid opladeren til „Slukket“, før du kobler oplader fra batteripolerne.

4.12 HYDRAULISKE SLANGER

⚠ ADVARSEL

Brug aldrig hænderne til at kontrollere olielækager, brug papir eller pap, for at undgå alvorlig personskade fra varm olie under højt tryk.

Hydraulisk væske, der strømmer ud under tryk, kan have tilstrækkelig kraft til at gennemtrænge hud. Hvis der sprøjtes væske ind i huden, skal det fjernes kirurgisk inden for få timer af en læge, der er fortrolig med denne type skade, ellers kan det føre til koldbrand.

BEMÆRK

Pas hele tiden på ikke at forurene det hydrauliske system. Følg de anbefalede vedligeholdelsesrutiner, og overhold de fastsatte intervaller for skift af hydraulikolie og -filter. Forurenning af enhver art kan resultere i driftsproblemer, fordi ventilerne stoppes til eller lækker indvendigt.

1. Sænk altid redskaber ned på jorden, udkobl alle drev, træk parkeringsbremse, stands motor, og fjern nøgle, før du efterser eller frakobler hydrauliske linier eller slanger.
2. Check synlige slanger og rør dagligt. Se efter våde slanger eller oliepletter. Udskift slidte eller beskadigede slanger og rør, før maskinen betjenes.
3. De nye rør eller slanger skal føres ad den samme bane som den eksisterende slange, flyt ikke klemmer, konsoller og bånd til et nyt sted.
4. Efterse grundigt alle rør, slanger og tilslutninger hver 250 timer.

   VIGTIGT: Det hydrauliske system kan blive permanent beskadiget, hvis olien bliver forurenet. Rens området omkring fittings og slangeenderne for at holde urenheder ude fra systemet før frakobling af nogen hydrauliske komponenter.

   a. Sæt mærkeseddel ved eller marker hver slanges placering, og rengør dernæst området omkring fittings før frakobling af nogen hydraulisk komponent.

   b. Vær klar til at sætte propper eller dæksler på slangeenderne og de åbne porte, når du frakobler komponenten. Dette vil holde urenheder ude fra det hydrauliske system og også forhindre oliespild.

   c. Sørg for, at „O“-ringe er rene, og at slangefittings sidder korrekt, før du spænder.

   d. Sørg for, at slangerne ikke bliver snoet. Snoede slanger kan få glidemuffer til at gå løs, mens slangen bøjes under betjening, og føre til olielækager.

   e. Kinkede eller snoede slanger kan hæmme oliegennemstrømningen og få systemet til at fejle og olien til at overophede samt føre til slangesvigt.

4.13 HYDRAULISK OLIE

Se Afsnit 6.3 vedrørende specifikke vedligeholdelses-intervaller.

Udtøm og udskift den hydrauliske olie efter et større komponentsvigt, eller hvis du bemærker tilstede-værelsen af vand eller skum i olien eller en harsk lugt (der indikerer for megen varme).

Udskift altid det hydrauliske filter ved olieskift.

Sådan skiftes hydraulisk olie:

1. Rengør området omkring oliedæksel for at forhindre urenheder i at komme ind i og forurene systemet.

   a. Olietemperatur bør være 16° - 32° C. Check ikke oliestand, når olien er varm.

   b. Hovedolietanken bør altid være fuld. Lad der være mindst (2,5 cm) under påfyldningshalsen.
2. Udtøm og udskift den hydrauliske olie årligt eller efter et større komponentsvigt, eller hvis du bemærker tilstedeværelsen af vand, skum eller en harsk lugt.
3. Tag aftapningsproppen ud af hovedtanken, og løsn eller fjern ventilationsdæksel på toppen af ekspansionsbeholderen. Check og rens ventilationsdækslet, udskift som påkrævet.
4. Efter aftapning af olie: Sæt aftapningsprop i, og fyld op med Jacobsen hydrauliske olie.
5. Udrens luft af systemet.
6. Lad alle traktorfunktioner køre i ca. 5 minutter for at udrense luft af systemet og stabilisere olien. Fyld tanken helt op.

4.14 HYDRAULISKE OLIEFILTRE

Det hydrauliske system er beskyttet af to 10-mikronfiltre

⚠ ADVARSEL

Ladefilteret er under tryk. Fjern dækslet langsomt for at undgå personskade.

Sådan udskiftes hydraulisk oliefilter:

1. Fjern det gamle filter.
2. Fyld det nye filter med olie, og installer dernæst nyt filter. Spænd kun med hånden.
3. Lad motoren køre ved tomgangshastighed med det hydrauliske system på neutral i fem minutter.
4. Kontroller hydraulikoliestanden, og fyld olie på om nødvendigt.

4.15 ELEKTRISK SYSTEM

⚠ FORSIGTIG

Sluk altid tændingskontakten, og fjern det negative batterikabel (sort), før du efterser eller arbejder på det elektriske system.

Generelle forsigtighedsforanstaltninger, som kan træffes for at mindske elektriske problemer, er opført på nedenstående liste.

1. Sørg for, at alle poler og forbindelser er rene og korrekt fastgjorte.
2. Check operatør-sikkerhedssystemet og effektafbrydere regelmæssigt.

   Kontakt en autoriseret forhandler af Jacobsen, hvis operatør-sikkerhedssystemet ikke fungerer korrekt, og problemet ikke kan rettes.
3. Hold ledningsnettet og alle individuelle ledninger væk fra bevægelige dele for at forhindre skader.
4. Sørg for, at sædekontaktnettet er forbundet med hovedledningsnettet.
5. Check batteri- og opladekredsløbet.
6. Vask ikke og højtryksrens ikke rundt om elektriske forbindelser og komponenter.

4.16 LYDDÆMPER OG UDSTØDNING

⚠ ADVARSEL

Udstødningsgasser indeholder kulilte, som er giftig og kan være dødelig, når den indåndes.

Betjen ALDRIG en motor uden ordentlig ventilation.

Efterse hele udstødningssystemet regelmæssigt, og udskift altid en defekt lyddæmper for at beskytte mod kulilteforgiftning.

Stands omgående motoren, hvis du bemærker en forandring i udstødningens farve eller lyd. Identificer problemet, og få systemet repareret.

Vrid alle udstødningsmanifoldbeslag ensartet. Spænd eller udskift udstødningsklamper.

4.17 DÆK

1. Hold dæk korrekt oppumpet for at forlænge dækkenes levetid. Check dæktryk, mens dækkene er kolde. Efterse slidbaneslitage.
2. Check trykket med en nøjagtig dæktryksmåler til lavtryksdæk.
3. Hold dæk oppumpet til:

   For - 110-138 kPa
   Bag - 69-83 kPa
   Styrehjul - 138-172 kPa

⚠ FORSIGTIG

FORSØG IKKE på at montere et dæk på en hjulkrans, medmindre du har den korrekte uddannelse, det korrekte værktøj og den korrekte erfaring. Ukorrekt motering kan føre til eksplosion, som kan resultere i alvorlig personskade.

4.18 HJULMONTERINGSPROCEDURE

⚠ ADVARSEL

Sørg for, at traktoren er parkeret på en fast og jævn flade. Arbejd aldrig på en traktor, der kun er understøttet af donkraften. Brug altid donkraftstativ.

Anbring klodser foran og bag ved de hjul, som ikke er hævet, hvis kun traktorens forende eller bagende er hævet.

1. Fjern snavs, fedt og olie fra pindbolten. Smør ikke gevind.
2. Placer hjul på nav, og efterse for at sikre fuld kontakt mellem monteringsoverfladen på hjul og nav eller bremsetromle.
3. Fingerspænd alle beslag, og vrid dernæst beslag på kryds og tværs; spænd altid møtrikker i toppositionen.
4. Check og vrid igen dagligt, indtil vridning er opretholdt. Se Afsnit 3.18.

4.19 PLEJE OG RENGØRING

Vask traktoren og redskaberne efter hver brug. Hold udstyret rent.

BEMÆRK

Vask ikke nogen del af udstyret, mens det er varmt. Brug ikke højtryksrenser eller -damp. Brug koldt vand og autorensemidler.

1. Brug komprimeret luft til at rense motor- og køleribber. En specialtrykluftspistol fås gennem forhandlere af Jacobsen.
2. Brug kun friskt vand til rengøring af udstyret.

BEMÆRK

Det er kendt, at brug af saltvand eller spildevand har fremmet rust og korrosion af metaldele, hvilket har medført for tidlig forringelse eller svigt. Skader af denne art er ikke dækket af fabriksgarantien.

3. Sprøjt ikke vand direkte på instrumentbrættet, tændingskontakten, strømfordeler eller nogen anden elektrisk komponent, eller på lejehuse og pakdåser.
4. Rengør al plastic- eller gummifinish – pyntelister o.l. –med en mild sæbeopløsning, eller brug vinyl-/gummirensemidler, der fås i handelen.

Reparer beskadigede metaloverflader, og brug Jacobsen pletmaling. Voks udstyret for at opnå maksimal malingsbeskyttelse

⚠ FORSIGTIG

Rens græs og efterladenskaber på klippeenheder, drev, lyddæmpere og motor for at forhindre brand.

⚠ ADVARSEL

Brug ALDRIG hænderne til rengøring af klippeaggregaterne. Benyt en børste til at fjerne afklippet græs fra knivene. Knivene er uhyre skarpe og kan forårsage alvorlige personskader.

4.20 STYRTBØJLE (ROPS)

Der fås en specielt udviklet styrtbøjle til denne traktor som ekstraudstyr. Hvis traktoren er udstyret med en sådan, skal den efterses periodisk, idet man følger betjeningsprocedurerne beskrevet i Sikkerheds- og Instruktionsbogen.

⚠ FORSIGTIG

I tilfælde af en beskadiget styrtbøjle, må bolte hverken løsnes eller fjernes, og styrtbøjlen må ikke svejses, bores, modificeres, bøjes eller udrettes på nogen måde.

1. Sædet, sikkerhedsselen, monteringsbeslag og alt andet tilbehør inden for styrtbøjlen bør efterses regelmæssigt og alle beskadigede dele udskiftes omgående.
2. Hvis ROPS udsættes for nogen form for påvirkning, bør den udskifte.
3. Kontrollér og stram alt hardware efter til rette drejningsmoment. Alle reservedele, der anvendes til ROPS (beskyttende struktur ved væltning), skal overholde de specifikationer, der er angivet i Jacobsen' reservedelsliste.
4. Brug kun plæneklipperen med styrtbøjlen foldet sammen, når det er absolut nødvendigt. Der er ingen beskyttelse mod væltning, når styrtbøjlen er foldet sammen.
5. Sikkerhedsselerne skal benyttes, når plæneklipperen bruges med styrtbøjlen i udfoldet og låst position. Sørg altid for at indstille sikkerhedsselen, så den sidder tæt ind til kroppen. Brug IKKE sikkerhedsseler, når styrtbøjlen er foldet sammen.

4.21 MOTORKØLER & OLIEKØLER

⚠ ADVARSEL

Undgå alvorlig legemsbeskadigelse fra pludseligt udsprøjtende, varm kølevæske eller damp: Forsøg aldrig at fjerne kølerdækslet, mens motoren er i gang. Stands motoren, og vent, til den er afkølet. Vær selv da yderst forsigtig, når du fjerner dækslet.

⚠ FORSIGTIG

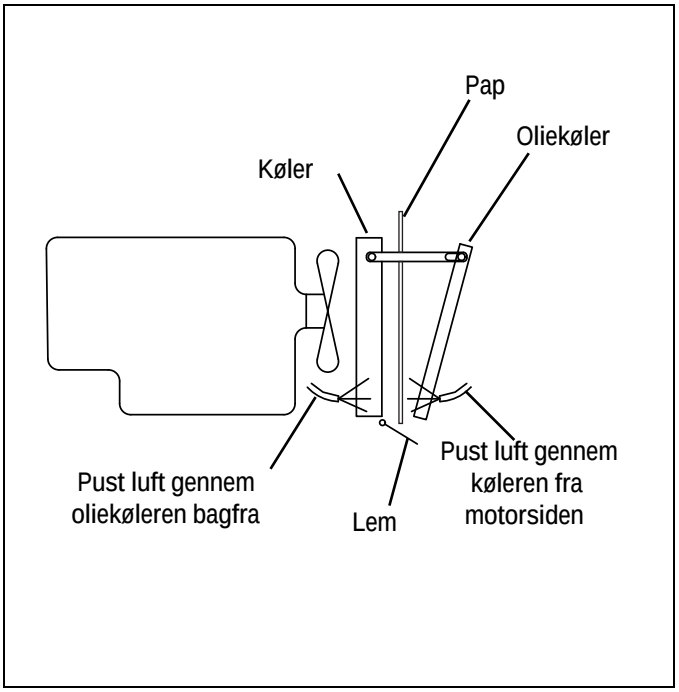
Hæld ikke koldt vand ind i en varm køler. Betjen ikke motoren uden en korrekt kølevæskeblanding. Sæt dækslet på igen, og spænd sikkert.

1. Efterse kølervæskestanden dagligt. Køleren bør være fuld, og genindvindingsflasken bør være fyldt op til Maksimum-mærket.
2. Tøm og genopfyld årligt. Fjern kølerdækslet, åbn motorblokafløbet og kølerafløbet. Tøm og rens genindvindingsflasken.
3. Bland rent vand med ætylenglykolbaseret frostvæske til den koldeste omgivelsestemperatur. Læs og følg instruktionerne på frostvæskebeholderen og i Motorhåndbogen.
4. Hold køleren og gitteret rent. Fjern blade eller afklippet græs fra gitteret dagligt.
5. Løsn vingemøtrikkerne på siden af oliekøleren, og vip oliekøleren tilbage til rengøringspositionen.
6. Åbn lemmen under køleren og oliekøleren, og placer derefter et stykke pap mellem køleren og oliekøleren, som skal fungere som afskærmning.

⚠ ADVARSEL

Undgå forbrændinger: Berør ikke lydpotten eller lydpottens afskærmning. Overfladetemperaturerne kan overskride 66°C.

7. Brug trykluft, op til 206 kPa, til at rengøre kølerens og oliekølerens ribber. En særlig trykluftspistol (JAC 5098) kan købes via en autoriseret Jacobsen-forhandler.
8. Blæs luft gennem kølrens motorside mod den bagerste del af traktoren og gennem den bagerste del af oliekøleren mod den forreste del af traktoren.
9. Fjern pappet, og sæt oliekøleren tilbage i dens opretstående position. Stram vingemøtrikkerne. Rengør hele rummet under køleren, og luk lemmen.
10. Kontroller og stram ventilatorremmen. Udskift klemmer og slanger hver andet år.
11. Hvis du fortsat oplever, at motoren eller det hydrauliske system overophedes, skal du hælde kølevæske på mere end én gang om måneden, eller hælde mere end en liter ad gangen. Få en autoriseret Jacobsen-forhandler til at kontrollere kølesystemet.



Figur 4E

4.22 OPBEVARING

Generelt

1. Vask traktoren grundigt, og smør den. Reparer og mal beskadiget eller blotlagt metal.
2. Efterse traktoren, spænd alle beslag, udskift slidte eller beskadigede komponenter.
3. Tøm og genopfyld køler.
4. Rens dækkene grundigt, og opbevar traktoren således, at vægten ikke hviler på dækkene. Check dæk med regelmæssige intervaller, og genoppump som påkrævet, hvis traktor ikke er på donkraftstativ.
5. Hold maskinen og alt dens tilbehør rent, tørt og beskyttet mod elementerne under opbevaring. Opbevar aldrig udstyr i nærheden af åben ild eller gnister, som kan antænde brændstof eller brændstof-dampe.

Batteri

1. Fjern, rengør og opbevar batteri i opretstående position på et køligt, tørt sted.
2. Efterse1 og genoplad batteri hver 60 til 90 dage, så længe det opbevares.
3. Opbevar batterier på et køligt, tørt sted. Rumtemperaturen må ikke være over 27° C for at mindske selvafladnings-hastigheden eller falde til under -7° C, så elektrolytten forhindres i at fryse.

Motor (generelt)

1. Fjern aftapningsproppen, mens motoren er varm, og tøm olien ud af krumtaphuset, og skift oliefilter. Sæt aftapningsproppen i igen, og genopfyld med frisk olie. Lad motoren køle af før start.
2. Rengør motorens ydre. Mal blotlagt metal, eller påfør et tyndt lag rustbeskyttelses-olie.
3. Påfyld et brændstofbehandlingsmiddel eller en biocid for at forhindre geldannelse eller bakterievækst i brændstof. Spørg din lokale brændstofleverandør til råds.
4. Hvis traktoren opbevares indendørs, skal brændstoffet tappes af tanken.
5. Luk brændstofafspærringsventilen.

Klippeenheder

1. Vask klippeenhederne grundigt, reparer derefter og mal alt beskadiget eller blotlagt metal.
2. Smør alle fittings og friktionspunkter.

⚠ FORSIGTIG

Tromlen bør behandles med den yderste forsigtighed for at forhindre personskade og beskadigelse af skærene.

Efter opbevaring

1. Check og geninstaller batteri.
2. Check eller servicer brændstoffilter og luftfilter.
3. Check kølerens kølevæskestand.
4. Check oliestand i motorens krumtaphus og hydrauliske system.
5. Fyld brændstoftanken op med friskt brændstof. Aftap brændstofsystemet.
6. Sørg for, at dækkene er korrekt oppumpet.
7. Fjern al olie fra tromlerne og underkniven. Juster underkniv og klippehøjde.
8. Start og betjen motoren ved 1/2 gas. Giv motoren tid til at blive ordentligt opvarmet og smurt.

⚠ ADVARSEL

Betjen aldrig motoren uden ordentlig ventilation; udstødningsgasser kan være dødelige, når de indåndes.

5 FEJLFINDING

5.1 GENERELT

Nedenstående fejlfindingsskema nævner grundlæggende problemer, som kan opstå under opstart og betjening. Kontakt den lokale Jacobsen-distributør for at få flere oplysninger om de hydrauliske og elektriske systemer.

Symptomer	Mulige årsager	Handling
Motor vil ikke starte.	1. Parkeringsbremse udkoblet, traktionspedal ikke i neutral eller PTO-kontakt aktiveret.	1. Check operatør-sikkerhedssystem og opstartsprocedure.
	2. Batteriet på lav ladning eller defekt.	2. Efterse batteris tilstand og batteriforbindelser.
	3. Brændstoftank tom eller snavset.	3. Fyld op med friskt brændstof. Udskift brændstoffilter. Aftap brændstofrør.
	4. Strømafbryder sprunget.	4. Nulstil strømafbryder.
Motor svær at starte eller kører dårligt.	1. Brændstofstand lav, brÊndstof eller brændstoffilter snavset.	1. Fyld op med friskt brændstof. Skift brændstoffilter. Aftap brændstofrør.
	2. Luftrenser snavset.	2. Efterse og erstat luftfilter.
	3. Brændstofdyser, brændstofpumpe.	3. Kig i motorhåndbogen.
	4. Motorproblem.	4. Kig i motorhåndbogen.
Motor standser.	1. Brændstoftank tom.	1. Fyld op med friskt brændstof, og aftap brændstofrør.
	2. Låsninger ikke slået til, før førersædet blev forladt.	2. Træk parkeringsbremse, indstil tromlekontakten til OFF (SLUK), og traktionspedalen i neutral.
Motor overopheder.	1. Kølervæskestand lav.	1. Efterse og tilfør kølevæske.
	2. Luftindtag hæmmet.	2. Rengør køleluftindsugningen.
	3. Vandpumperem sprunget eller løs.	3. Stram eller udskift rem.
	4. Motor overbelastet.	4. Reducer fremadkørende hastighed.
Batteri bevarer ikke ladning.	1. Løse eller ætsede batteripoler.	1. Efterse og rengør poler.
	2. Lav elektrolyt.	2. Fyld op igen til korrekt stand.
	3. Generatorrem løs eller sprunget.	3. Stram eller udskift rem.
	4. Opladningssystem defekt.	4. Se motorhåndbog.
Klippeenhederne klipper ikke eller klipper ujævnt.	1. Klippeenhederne er ikke sænket helt.	1. Sænk klippeenhederne ned på jorden.
	2. Motorhastighed for lav.	2. Check motorhastighed. Lad motoren køre med fuld gas.
	3. Hydraulisk olie lav.	3. Check beholderstand, og fyld op om nødvendigt.
Traktor reagerer ikke på traktionspedal.	1. Parkeringsbremse trukket.	1. Udkobl parkeringsbremse.
	2. Bugseringsventil åben.	2. Luk bugseringsventil.
	3. Hydraulisk olie lav.	3. Check beholderstand, og fyld op om nødvendigt.
Klippemekanisme kan ikke hæves eller sænkes.	1. Hydraulisk olie lav.	1. Check beholderstand, og fyld op om nødvendigt.
Målere/indikatorer virker ikke.	1. Strømafbryder sprunget.	1. Nulstil strømafbryder, check pære.
	2. Løse ledninger.	2. Check elektriske forbindelser.

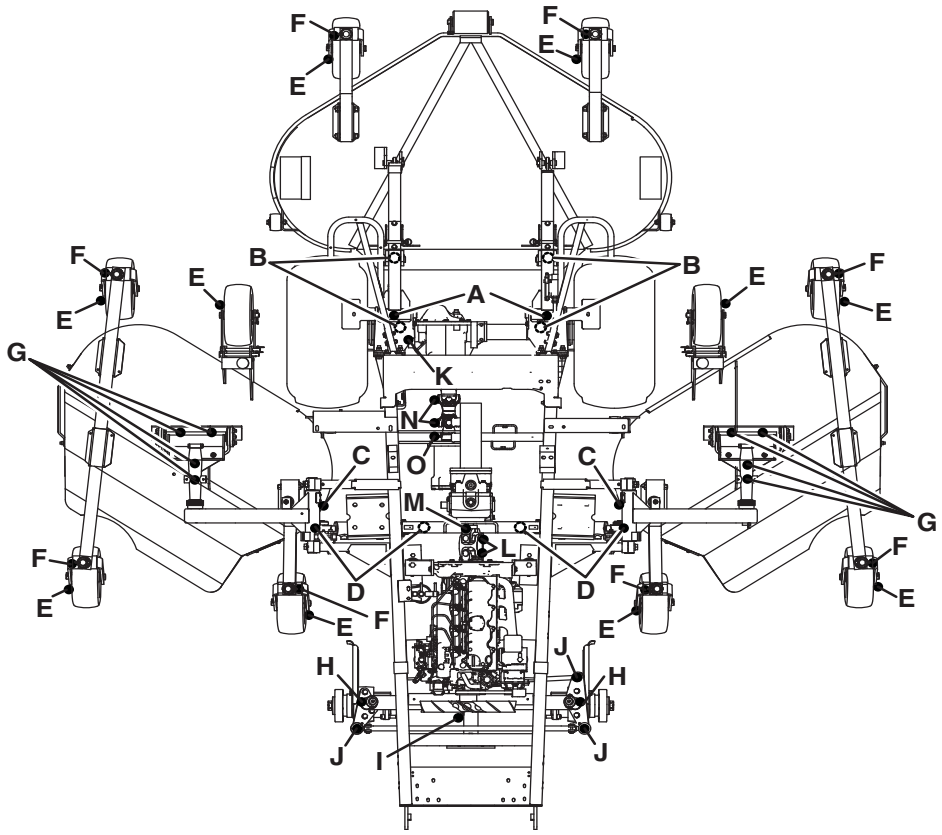
6.1 GENERELT

⚠ ADVARSEL

Udkobl alle drev, sænk redskaber ned på jorden, træk parkeringsbremse, stands motor, og fjern nøgle fra tændingslås før rengøring, justering eller reparation af dette udstyr for at forhindre.

1. Rengør altid fedtfittingen før og efter smøring.
2. Smør med fedt, som opfylder eller er bedre end NLGI Grad 2 LB-specifikationerne. Tilfør fedt med en manuel fedtpistol, og fyld langsomt, indtil fedt begynder at sive ud. Brug ikke trykluftspistoler.
3. Tilfør periodisk en lille mængde lithiumbaseret fedt til førersædemederne.
4. Tilfør adskillige dråber SAE 30-olie hver 40 timer eller som påkrævet for glidende betjening af alle løftestænger, drejepunkter og andre friktionspunkter, som ikke er vist på smøringsskemaet.
5. Indfedt fittings hver 25 timer.

6.2 SMØRINGSSKEMA



Beskrivelse		Fittings			
A	Drejetap på forreste klippeenhedsarm	(2)	H	Ratakselspindelhus	(2)
B	Forreste løftecylindere	(4)	I	Ratakseldrejeled	(1)
C	Drejetap på fløjklippeenhedsarmen	(2)	J	Ratakseldrejeled	(4)
D	Fløjklippeenhedens løftecylindere	(4)	K	Bremsepedaldrejeled	(1)
E	Styrehjul	(10)	L	Pumpedrivaksel, kryds	(2)
F	Styrehjularme	(8)	M	Pumpedrivaksel, not	(2)
G	Klippeenhedens omdrejningshus	(8)	N	Akseldrivaksel, kryds	(2)
			O	Akseldrivaksel, not	(1)

6.3 VEDLIGEHOLDELSESSKEMAER

Anbefalede eftersyns- og smøringsintervaller

	Hver 8-10 timer	Hver 25 timer	Hver 100 timer	Hver 250 timer	Hver 400 timer	Hver 500 timer	Hver 1000 timer	Årligt	Se afsnit	Smørings type
Luftfilter (førerhus)	I			R						
Luftfilter (motor)	I							R****	4.6	
Batteriopladning		I							4.9	
Remme	I-A*	I-A				R			4., 3.2	
Bremse		I-A	A						3.4	
Kølesystem	I-C-A							R	4.21	IV
Elektrisk system		I*	I						4.15	
Motorolie	I	R*	R						4.5	II
Motoroliefilter		R*	R							
Foraksel	I-A							R		V
Brændstofsystem		I							4.8	
Brændstoffilter								R	4.8	
Fedtfittings, alle	L	L	L			L			6.2	I
Hydrauliske slanger og rør	I***			I					4.12	
Hydraulisk olie	I-A			R**					4.13	III
Hydraulisk oliefilter (2)		R*		R****					4.14	
Lyddæmper og udstødning		I							4.16	
Kølerskærme	I-C/AR								4.21	
Dæk	I-A	A							4.17	

A - Tilfør eller justér C - Rengør I - Efterse L- Smør R - Udskift AR - Efter behov

* Angiver første service for nye maskiner.

** Eller hvert andet år, hvad der end kommer først.

*** Efterse synlige slanger og rør for lækager eller oliemærker.

**** Eller når servicelampen tændes.

I - Manuel fedtpistol med NLGI, grad 2 (serviceklasse LB).

II - Motorolie - se Afsnit 4.5.

III - Brug Jacobsen-hydraulikvæske: Kapacitet: 19 l. Bestil del nr. 2500548 æske med to flasker med 9,5 l eller del nr. 2500546, spand med 19 liter.

IV - Kapacitet: 2,8 l 50/50 vand/ethylenglycol-blanding.

V - Kapacitet 1,8 l 80W-90 gearolie med 142 ml begrænset spær.

8 RESERVEDELSKATALOG

8.1 SÅDAN BRUGES RESERVEDELSKATALOGET

Forkortelser

N/S - Serviceres ikke separat, kan kun skaffes ved at bestille hovedkomponent eller sæt.

AR - Variabel mængde eller mål påkrævet for at opnå korrekt justering (som påkrævet).

Symboler, såsom l, ved siden af emnenummeret, angiver, at der findes en note, som indeholder yderligere oplysninger, der er vigtige ved bestilling af denne del.

Punkter

Emner i punktopstillinger angiver dele, der er indbefattet som del af en montage eller en anden komponent. Disse dele kan bestilles separat eller som del af hovedkomponenten.

Emne	Styknr.	Antal	Beskrivelse	Serienumre/Noter
l 1	123456	1	Beslag, ventil	*Angiver en stykdel*
2	789012	1	Ventil, løfter	*Indbefatter emner 3 og 4*
3	345678	1	• Håndtag	*Serviceret del indbefattet i del 2*
4	N/S	1	• Pakningssæt	*Ikke-serviceret del indbefattet i del 2*
5	901234	1	Skrue, 1/4-20 x 2" sekskantet hoved	

8.2 BESTILLING AF DELE

1. Skriv fuldt navn og komplet adresse på ordren.
2. Angiv, hvor og hvordan udstyret skal leveres.
3. Oplys produktnummer, -navn og serienummer, som er stanset på produktets navneplade eller serieplade.
4. Bestil med angivelse af den ønskede mængde, styknummer, farvekode og beskrivelse af delen som angivet i tilbehørslisten.
5. Send eller aflever ordren til en autoriseret forhandler af Jacobsen.
6. Efterse alle leverancer, når de modtages. Hvis der findes beskadigede eller manglende dele, skal der indgives krav til befragteren, før leverancen accepteres.
7. Send ikke materialer tilbage uden et brev med en forklaring, hvori de returnerede dele anføres på en liste. Transportomkostningerne skal være betalt på forhånd.

Garantien bortfalder i tilfælde af brug af ikke-Jacobsen dele og redskaberne.

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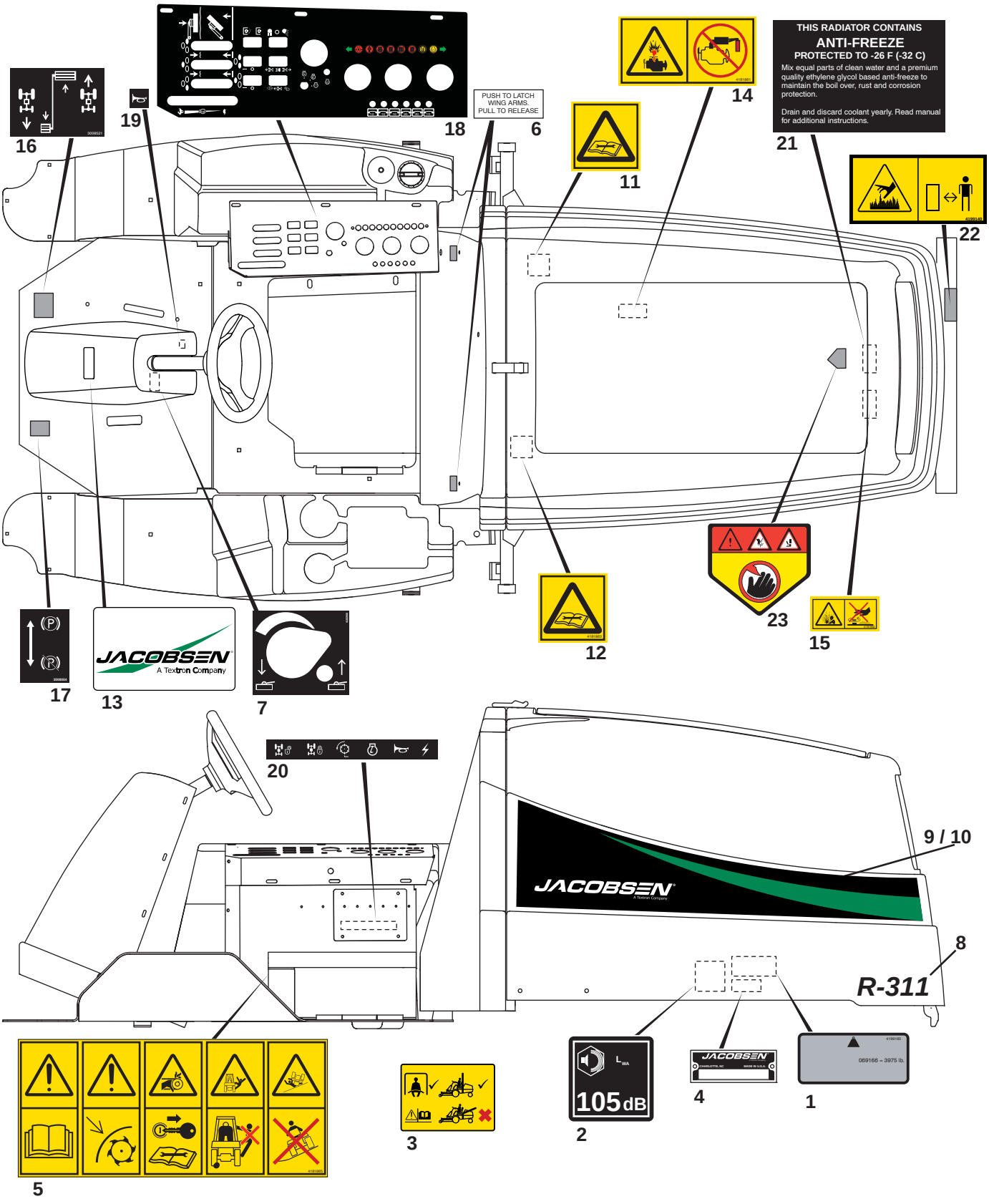
1.1 Decals

Serial No. 69166 - All

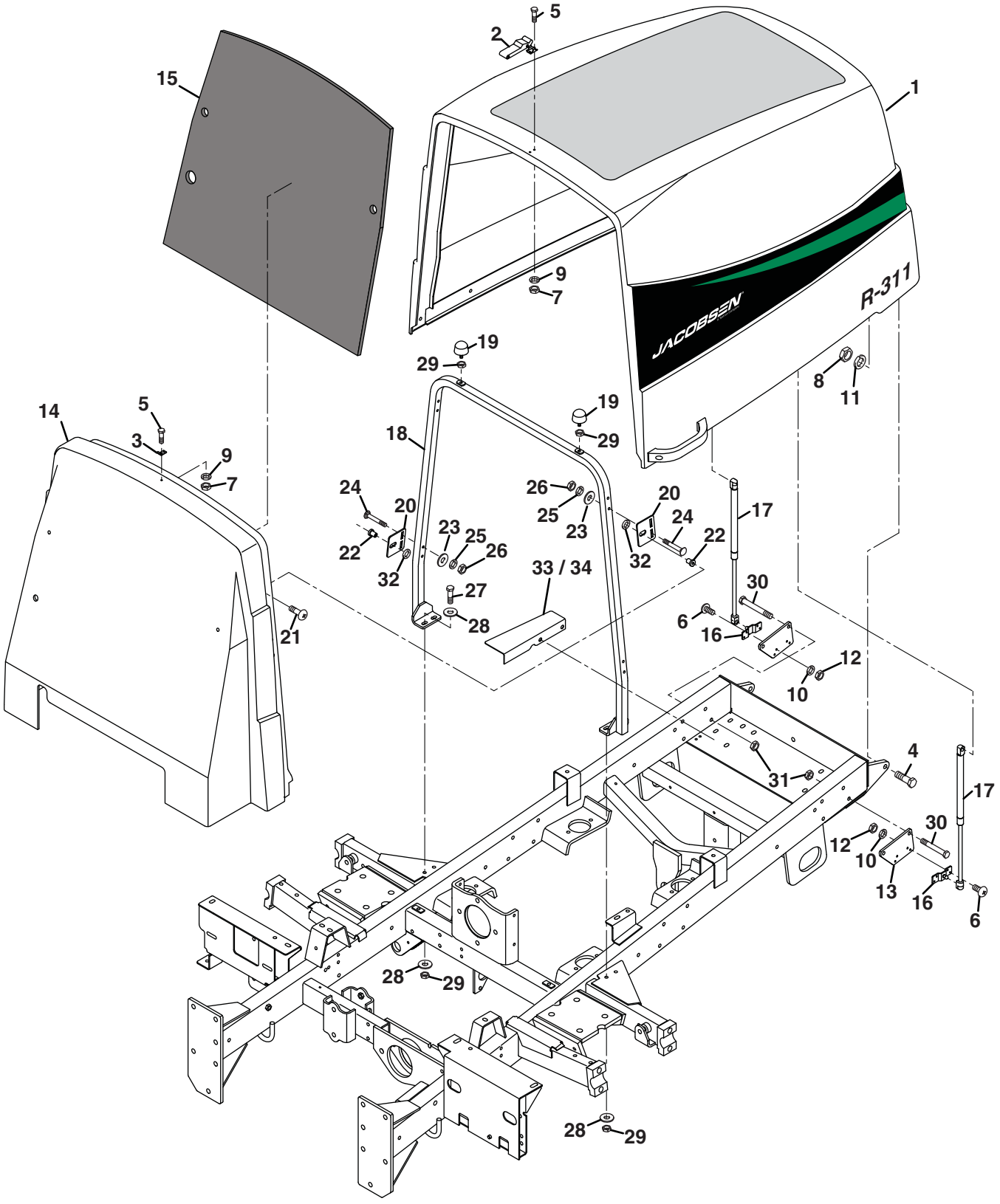


Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	4199160	1	Decal, R-311 Weight	Located on right frame rail
2	4117468	1	Decal, 105 dB Noise	Located on right frame rail
3	4194260	2	Decal, ROPS Deployment	Located on ROPS folding section
4	REF	1	Serial Plate	Located on right frame rail
5	4181865	1	Decal, Warning	
6	366608	2	Decal, Wing Transport Lock Cable	
7	4192000	1	Decal, Weight Transfer	
8	4187682	2	Decal, R-311	
9	4202200	1	Decal, Left Side Stripe	
10	4202201	1	Decal, RIght Side Stripe	
11	4181863	1	Decal, See Manual for Maintenance	Located on Charge Filter Bracket
12	4181863	1	Decal, See Manual for Maintenance	Located on Hydraulic Tank
13	4182386	1	Emblem, Jacobsen	
14	4181861	1	Decal, Start Assist	Located on Air Cleaner
15	4181862	1	Decal, Radiator Warning	Located on Radiator
16	3008521	1	Decal, Accelerator	
17	3008004	1	Decal, Brake	
18	4170760	1	Decal, Instrument Panel	
19	366866	1	Decal, Symbol	Use Horn Portion of Decal Only
20	3002565	1	Decal, Relay Identification	Located on inside of relay cover
21	363995	1	Decal, Antifreeze	Located on Radiator
22	4199140	1	Decal, Heat Warning	
23	4164381	1	Decal, Danger	Located on Fan Shroud

> Change from previous revision

2.1 Hood and Front Cowling

Serial No. All

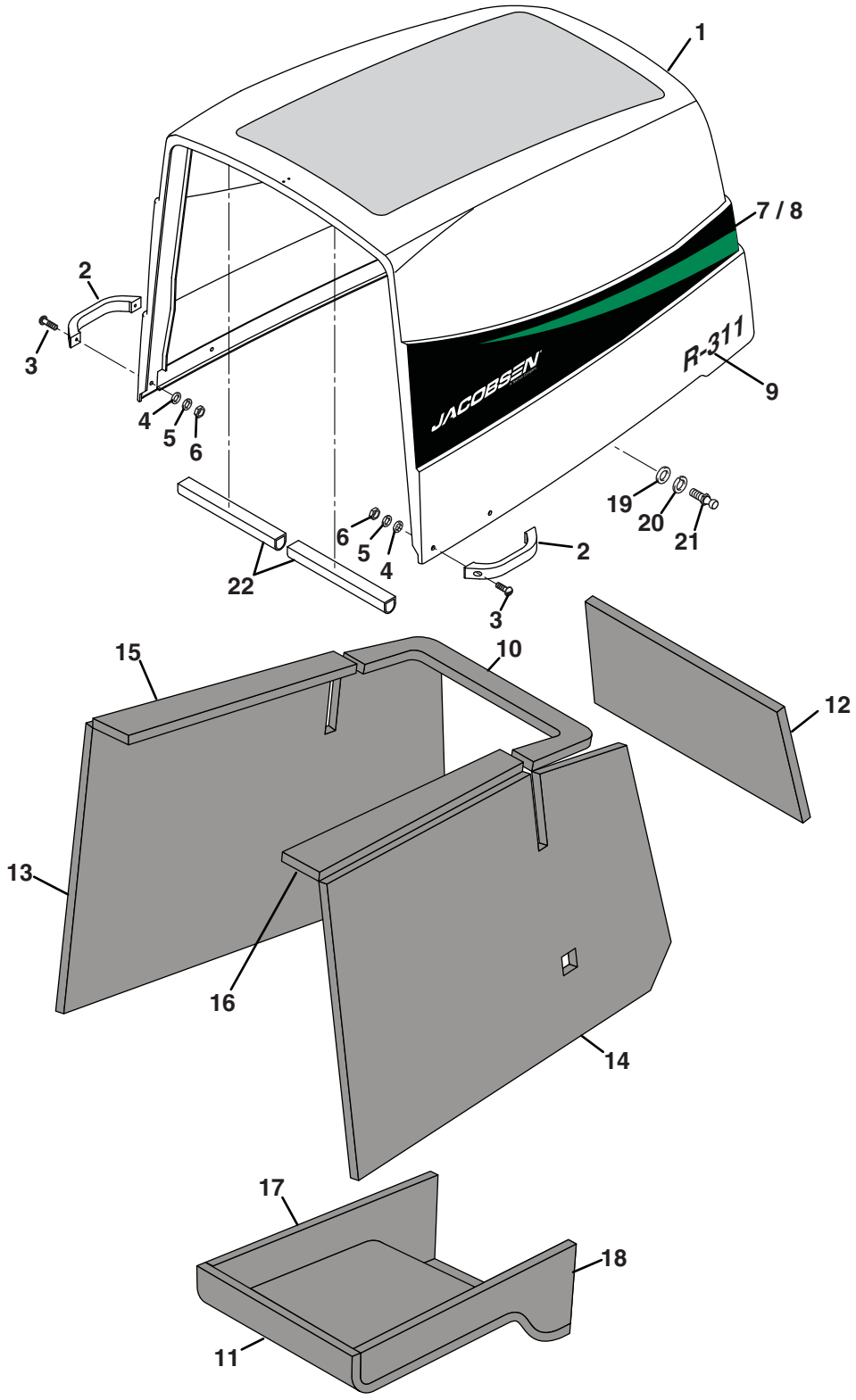


Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	4182022	1	Hood, R-311	See 3.1
2	366883	1	Latch, Overcenter	
3	NS	1	• Keeper	
4	400408	2	Screw, 1/2-13 x 1-1/2” Hex Head	
5	403741	4	Screw, #8-32 x 5/8” Hex Head	
6	403912	8	Screw, #10-24 x 5/8” Truss Head	
7	444306	4	Nut, #8-32 Hex	
8	444758	2	Locknut, 1/2-13 Hex	
9	446110	4	Lockwasher, #8	
10	446118	8	Lockwasher, #10	
11	453017	2	Flat Washer, 1/2	
12	444310	8	Nut, #10-24 Hex	
13	4197282	2	Plate, Hood Mount	
14	4182025	1	Front Cowling	
15	4189009	1	• Foam, Cowling	
16	4188780	2	Bracket, Ball Stud	
17	4197420	2	Spring, Gas	
18	4196223	1	Hood Support	
19	523126	2	Bumper, Rubber	
20	4195783	2	Plate, Cowling	
21	404022	4	Screw, 1/4-20 x 3/4” Truss Head	
22	522516	4	Mount, Isolation	
23	452004	8	Flat Washer, 1/4	
24	440052	8	Carriage Bolt, 1/4-20 x 1-3/4”	
25	446130	8	Lockwasher, 1/4 Heavy	
26	443102	8	Nut, 1/4-20 Hex	
27	400188	4	Screw, 5/16-18 x 1” Hex Head	
28	452006	8	Flat Washer, 5/16	
29	443106	4	Nut, 5/16-18 Hex	
30	400286	4	Screw, 3/8-16 x 2-3/4” Hex Head	
31	445806	4	Nut, 3/8-16 Hex Nylock	
32	455012	4	Flat Washer, 1/2	
33	4182023	1	Hood Support, Right Side	
34	4182024	1	Hood Support, Left Side	

> Change from previous revision

3.1 Hood

Serial No. All

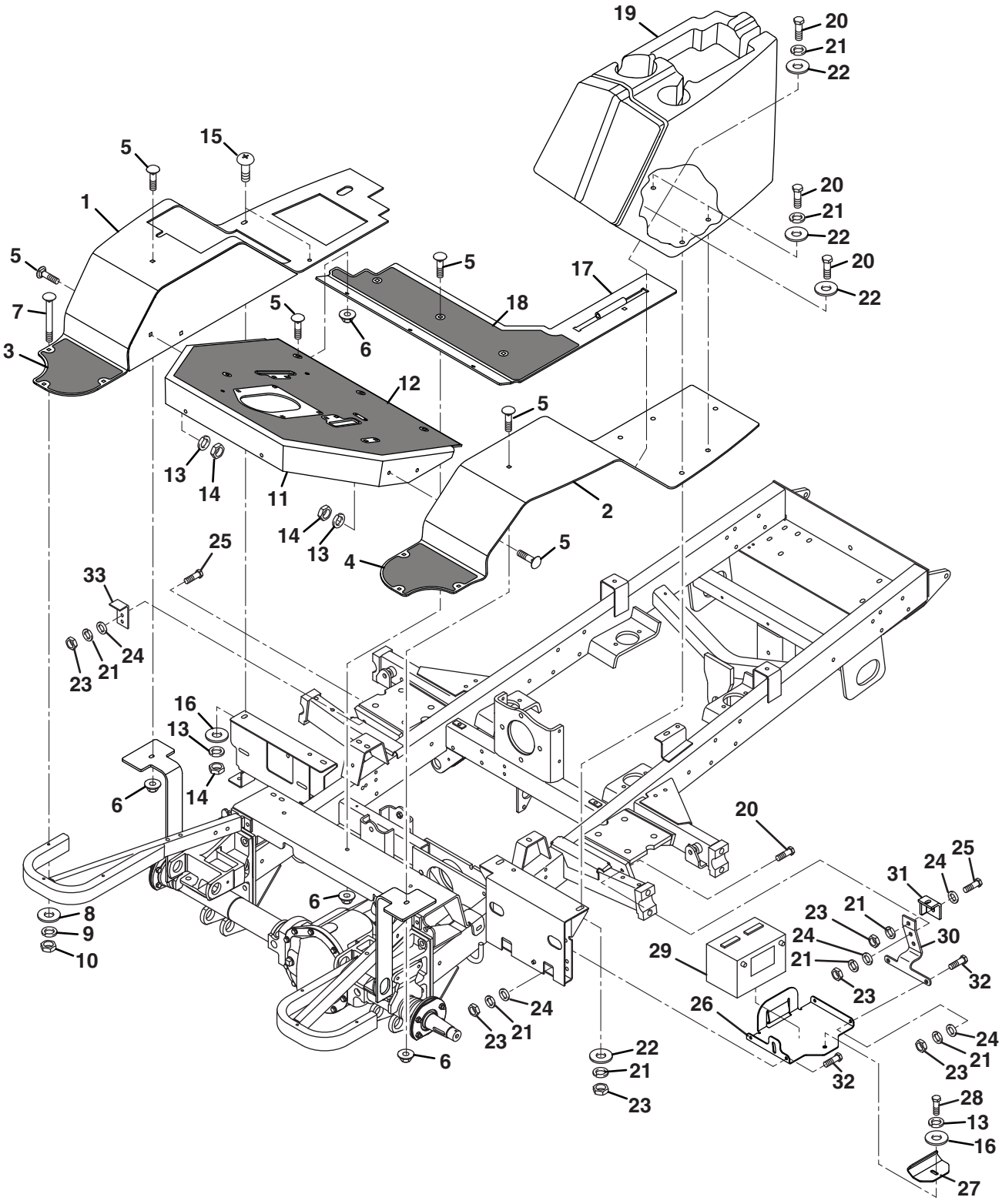


Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	4182022	1	Hood Assembly	
2	340795	2	• Handle, Hood	
3	402230	4	• Screw, 1/4-20 x 1" Slotted	
4	453023	4	• Flat Washer, 1/4	
5	446130	4	• Lockwasher, 1/4 Heavy	
6	443102	4	• Nut, 1/4-20 Hex	
7	4202200	1	• Decal, Left Side Jacobsen	
8	4202201	1	• Decal, RIght Side Jacobsen	
9	4187682	2	• Decal, R-311	
10	4189000	1	• Foam, Top Rear	
11	4189001	1	• Foam, Top Front	
12	4189002	1	• Foam, Lower Rear	
13	4189003	1	• Foam, Right Side	
14	4189004	1	• Foam, Left Side	
15	4189005	1	• Foam, Top Right	
16	4189006	1	• Foam, Top Left	
17	4189007	1	• Foam, Right Under Side	
18	4189008	1	• Foam, Left Under Side	
19	453009	2	• Flat Washer, 5/16	
20	446134	2	• Lockwasher, 5/16	
21	4201080	2	• Threaded Ball Stud	
22	4201100	2	• Seal	

> Change from previous revision

4.1 Floorboard Platform

Serial No. All

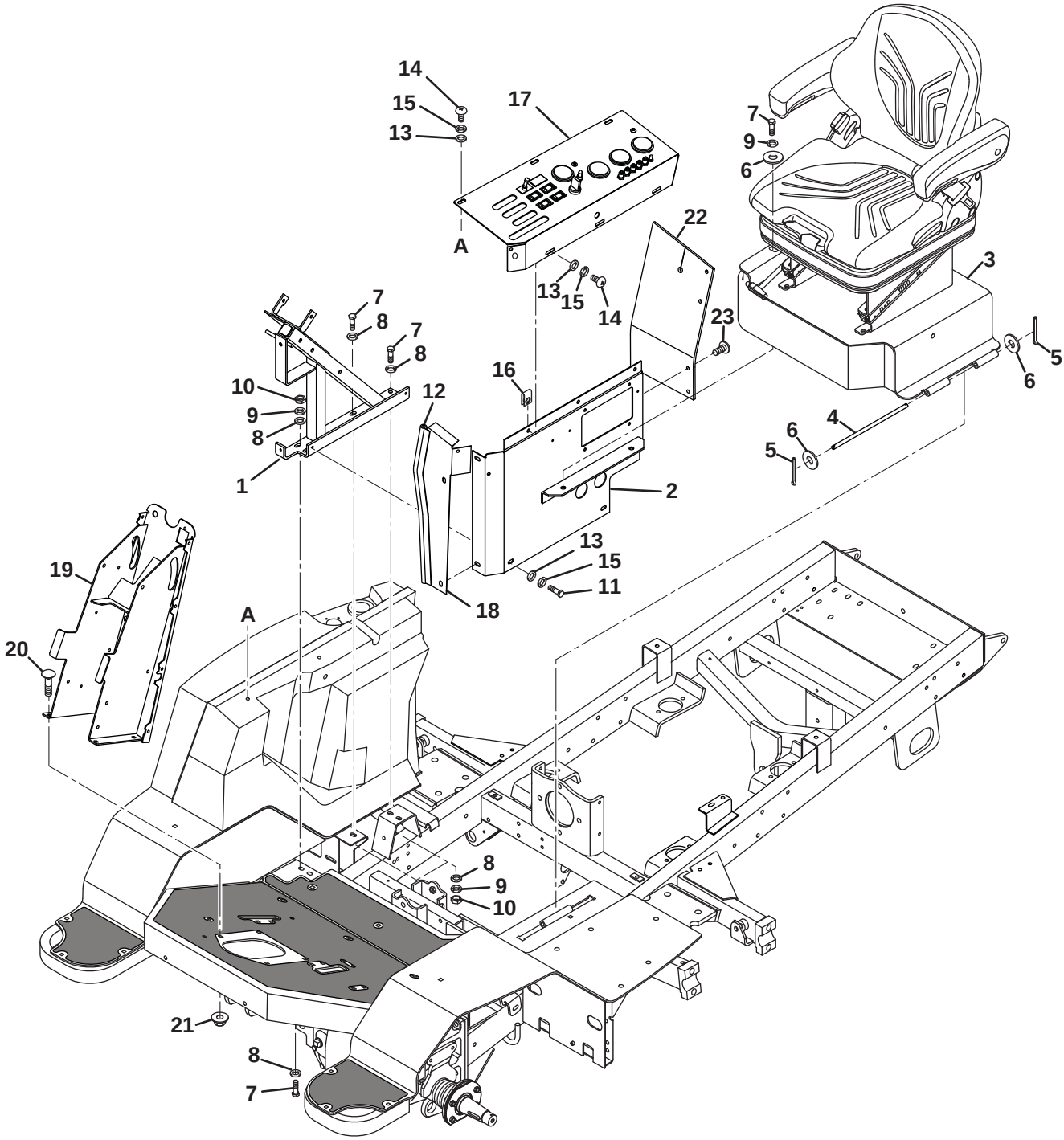


Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	4185961	1	Right Side Fender	
2	4185960	1	Left Side Fender	
3	4185981	1	Pad, Right Side Step	
4	4185980	1	Pad, Left Side Step	
5	441614	13	Carriage Bolt, 5/16-18 x 1”	
6	445781	9	Nut, 5/16-18 Whizlock Flange	
7	441669	6	Carriage Bolt, 1/4-20 x 2-3/4”	
8	452004	6	Flat Washer, 1/4	
9	446128	6	Lockwasher, 1/4	
10	444708	6	Locknut, 1/4-20	
11	4184649	1	Floor, Foot Rest	
12	4185983	1	Pad, Footrest	
13	446134	7	Lockwasher, 5/16	
14	443106	6	Nut, 5/16-18 Hex	
15	404072	2	Screw, 5/16-18 x 1” Truss Head	
16	452006	3	Flat Washer, 5/16	
17	4185923	1	Floor Board	
18	4185982	1	Pad, Floor	
19	4181420	1	Utility Box	
20	400266	8	Screw, 3/8-16 x 1-1/2” Hex Head	
21	446140	16	Lockwasher, 3/8	
22	452008	8	Flat Washer, 3/8	
23	443110	11	Nut, 3/8-16 Hex	
24	453011	9	Flat Washer, 3/8	
25	400264	3	Screw, 3/8-16 x 1-1/4” Hex Head	
26	4196122	1	Tray, Battery	
27	4196121	1	Clamp, Battery Retaining	
28	400188	1	Screw, 5/16-18 x 1”” Hex Head	
29	N/S	1	Battery, 12 V Group # 75NF	REFERENCE B1, See 60.1
30	2242036	1	Bracket, Battery Tray Support	
31	4188920	1	Bracket, LH Rear Fender Support	
32	400262	4	Screw, 3/8-16 x 1” Hex Head	
33	2242037	1	Bracket, RH Rear Fender Support	

> Change from previous revision

5.1 Console Support

Serial No. All

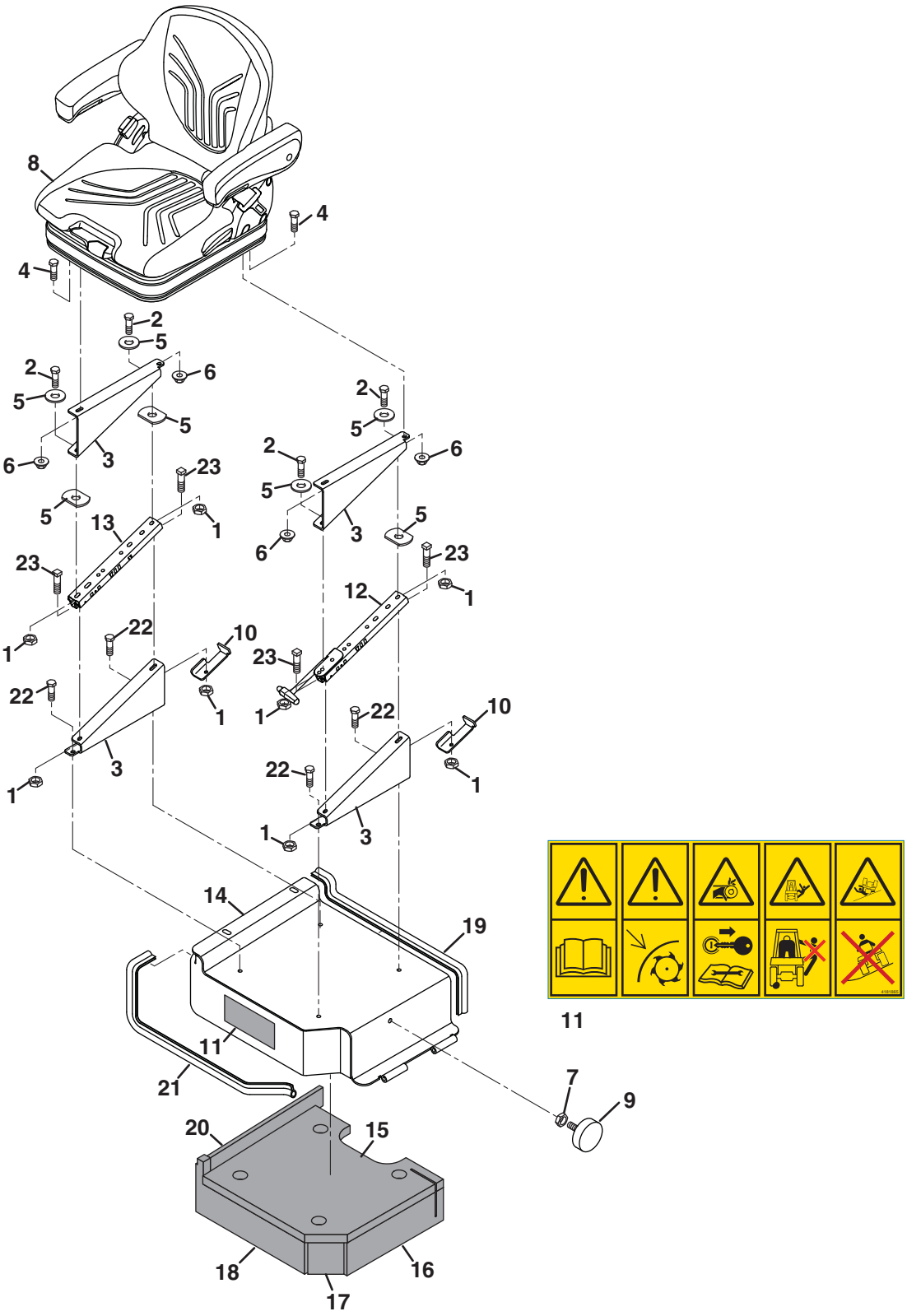


Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	4168044	1	Support, Console	
2	4189011	1	Console Wall	
3	REF	1	Seat and Seat Base	See 6.1
4	4185864	1	Rod, Seat Pivot	
5	460026	2	Cotter Pin, 1/8 x 3/4”	
6	452007	4	Flat Washer, 3/8	
7	400264	7	Screw, 3/8-16 x 1-1/4” Hex Head	
8	453011	10	Flat Washer, 3/8	
9	446142	7	Lockwasher, 3/8 Heavy	
10	443110	5	Nut, 3/8-16 Hex	
11	400184	4	Screw, 5/16-18 x 3/4” Hex Head	
12	4185903	1	Trim Seal	
13	455056	10	Flat Washer, 5/16	
14	403760	6	Screw, 5/16-18 x 3/4” Truss Head	
15	446134	10	Lockwasher, 5/16 Special	
16	445278	3	Nut, Tinnerman	
17	REF	1	Control Panel	See 7.1
18	4186141	1	Bracket, Seal	
19	REF	1	Steering Tower	See 15.1
20	441614	4	Carriage Bolt, 5/16-18 x 1”	
21	445795	4	Nut, 5/16-18 Spiralock Flange	
22	4195920	1	Panel, Closeout	
23	408851	4	Screw, 1/4-20 x 3/4” Self Tapping	

> Change from previous revision

6.1 Seat and Seat Base

Serial No. All

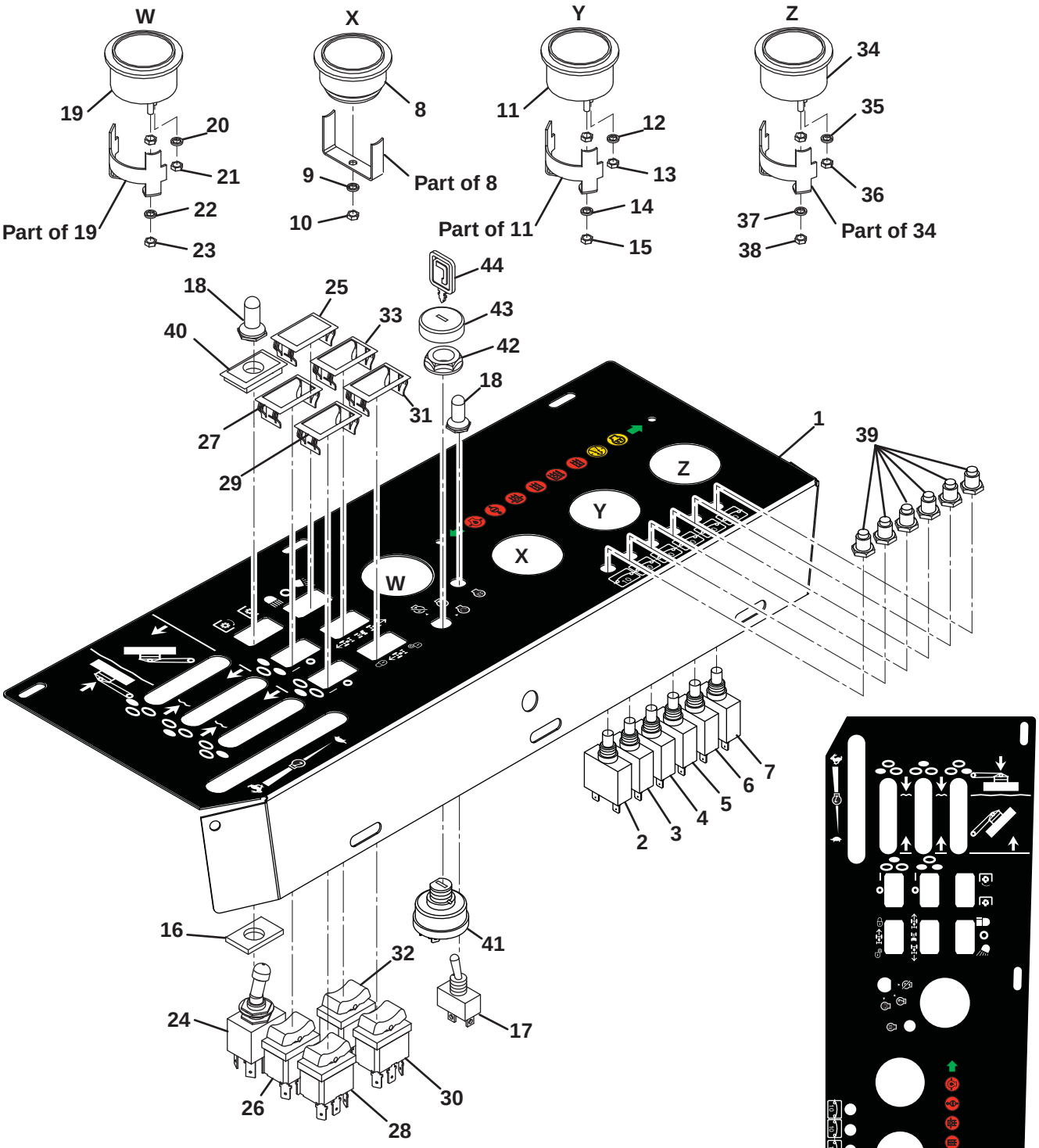


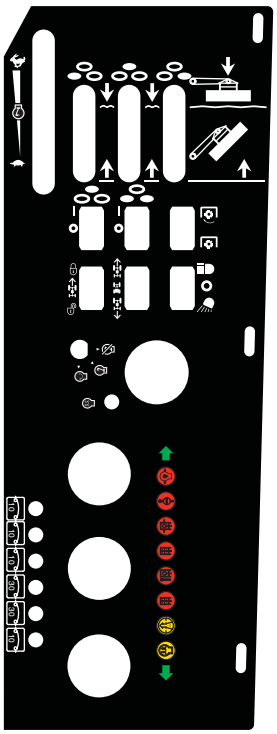
Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	450453	4	Locknut, M8-1.25 Center	
2	452388	4	Screw, M8-1.25 x 20 mm Hex Head	
3	4185860	4	Seat Riser	
4	400186	4	Screw, 5/16-18 x 7/8” Hex Head	
5	4195881	3	Spacer	
6	445795	4	Nut, 5/16-18 Spiralock Flange	
7	443110	1	Nut, 3/8-16 Hex	
8	4185878	1	Seat	See 58.1
	N/S	1	• Switch, Seat	REFERENCE SW3, See 60.1
9	361723	1	Stop, Rubber	
10	4192160	2	Stop, Rear Seat	
11	4181865	1	Decal, Warning	
12	4193341	1	Seat Rail	
13	4193344	1	Seat Rail with Handle	
14	4185927	1	Seat Base	
15	4185871	1	Insulation, Seat Base	
16	4185872	1	Insulation, Left Side	
17	4185873	1	Insulation, Seat Base Corner	
18	4185874	1	Insulation, Front Side	
19	4185875	1	Trim Seal	
20	4185870	1	Insulation, Right Side	
21	4185868	1	Trim Seal	
22	403770	4	Screw,5/16/18 x 3/4” Hex Flange	
23	4203220	4	Screw, M8-1.25 x 20 mm Square Hd	

> Change from previous revision

7.1 Control Panel

Serial No. All





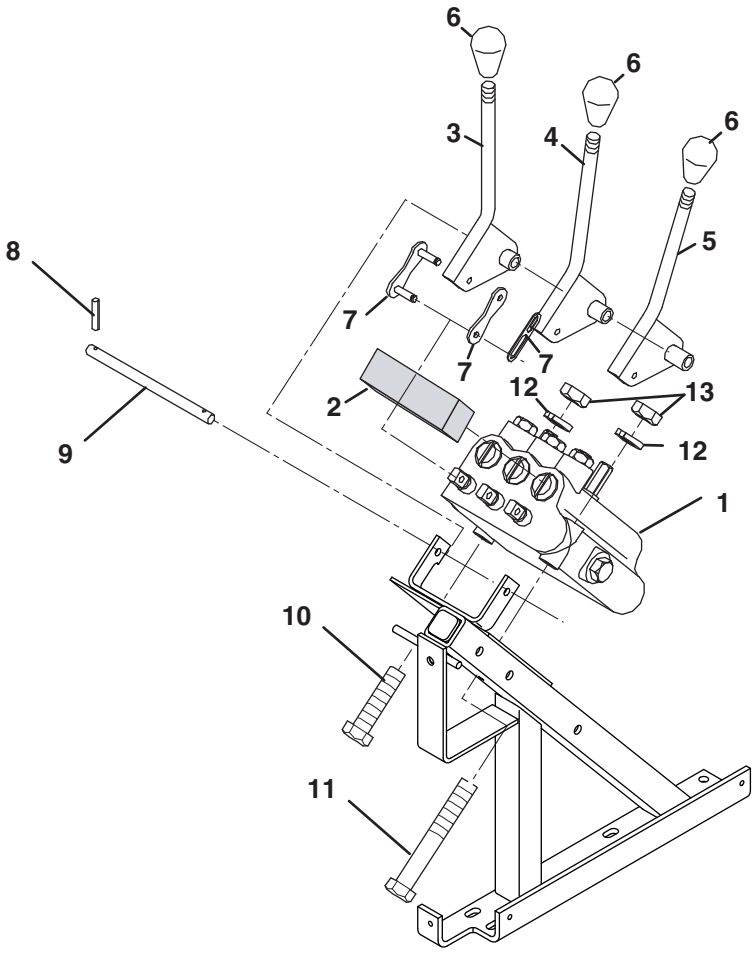
Control Panel Decal

Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	4193340	1	Control Panel	
	4170760	1	• Decal, Control Panel	
2	338601	1	Circuit Breaker, 10 Amp	REFERENCE CB1, See 60.1
3	338601	1	Circuit Breaker, 10 Amp	REFERENCE CB2, See 60.1
4	338601	1	Circuit Breaker, 10 Amp	REFERENCE CB3, See 60.1
5	338558	1	Circuit Breaker, 30 Amp	REFERENCE CB4, See 60.1
6	338558	1	Circuit Breaker, 30 Amp	REFERENCE CB5, See 60.1
7	338601	1	Circuit Breaker, 10 Amp	REFERENCE CB8, See 60.1
8	162723	1	Hour Meter	REFERENCE U5, See 60.1
9	447006	2	• Lockwasher, #10 External Tooth	
10	444310	1	• Nut, #10-24 Hex	
11	162721	1	Volt Meter	REFERENCE U4, See 60.1
12	447002	3	• Lockwasher, #6 External Tooth	
13	444304	3	• Nut, #6-32 Hex	
14	447206	2	• Lockwasher, #8 Internal Tooth	
15	444306	2	• Nut, #8-32 Hex	
16	1000588	1	Plug, Upper Panel	
17	365043	1	Switch, Glow Plug	REFERENCE SW5, See 60.1
18	363962	2	Switch Boot	
19	3005121	1	Water Temperature Gauge	REFERENCE U6, See 60.1
20	447002	3	• Lockwasher, #6 External Tooth	
21	444304	3	• Nut, #6-32 Hex	
22	447206	2	• Lockwasher, #8 Internal Tooth	
23	444306	2	• Nut, #8-32 Hex	
24	3001372	1	Switch, PTO	REFERENCE SW4, See 60.1
25	366932	1	Plug, Panel	
26	3001374	1	Switch, Wing Decks	REFERENCE SW6, See 60.1
27	5003490	1	• Mounting Bezel	
28	3001373	1	Switch, Front Deck	REFERENCE SW7, See 60.1
29	5003490	1	• Mounting Bezel	
30	3001371	1	Switch, Cruise Control	REFERENCE SW22, See 60.1
31	5003490	1	• Mounting Bezel	
32	3001370	1	Switch, 4WD	REFERENCE SW19, See 60.1
33	5003490	1	• Mounting Bezel	
34	365943	1	Gauge, Fuel	REFERENCE U7, See 60.1
35	447002	3	• Lockwasher, #6 External Tooth	
36	444304	3	• Nut, #6-32 Hex	
37	447206	2	• Lockwasher, #8 Internal Tooth	
38	444306	2	• Nut, #8-32 Hex	
39	364774	6	Boot, Protective	
40	3001386	1	Plug, Lower Panel	
41	5002503	1	Ignition Switch	REFERENCE SW1, See 60.1
42	5002102	1	• Nut, Black Nylon Face	
43	5002101	1	• Bezel Slotted Rubber	
44	5000039	1	• Ignition Key	

> Change from previous revision

8.1 Lift Valve

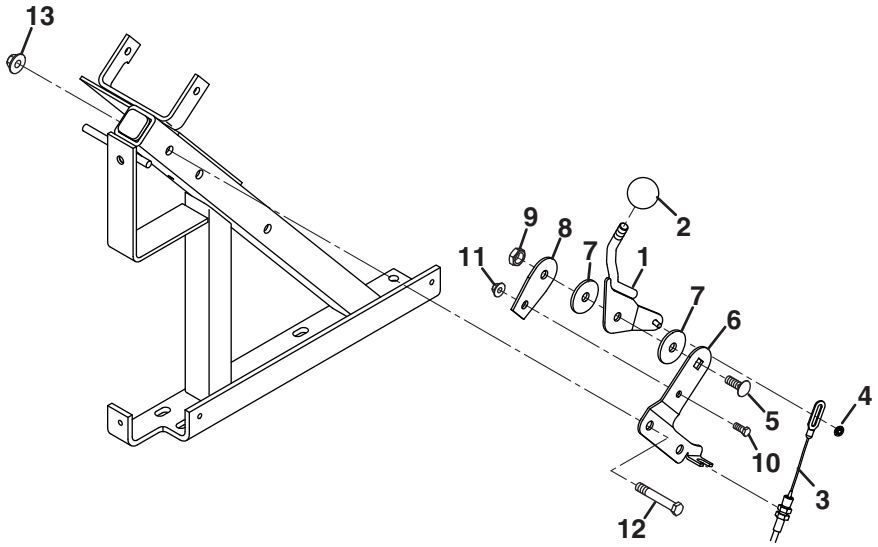
Serial No. All



Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	1001802	1	Lift Valve	See 52.1
2	366150	1	Weather Strip	
3	132473	1	Right Wing Lift Lever	
4	132472	1	Center Lift Lever	
5	132471	1	Left Wing Lift Lever	
6	366522	3	Knob, Lift Lever	
7	366133	3	Chain Link	
8	461356	2	Roll Pin, 3/32 x 1/2”	
9	361833	1	Pin, Lift Lever	
10	400124	1	Screw, 1/4-20 x 2-1/2” Hex Head	
11	400128	1	Screw, 1/4-20 x 3-1/2” Hex Head	
12	446130	2	Lockwasher, 1/4 Heavy	
13	443102	2	Nut, 1/4-20 Hex	

> Change from previous revision

9.1 Throttle

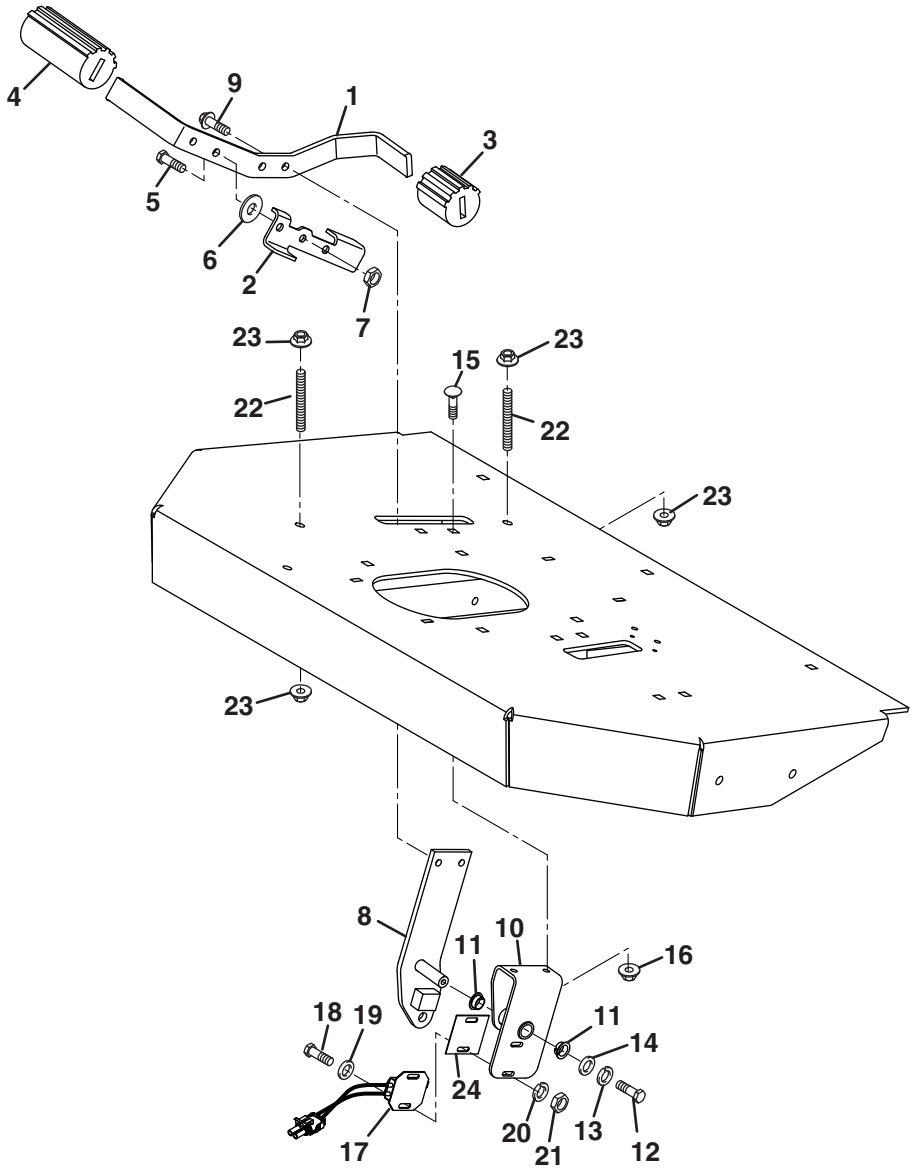


Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	4172944	1	Throttle Handle	
2	326731	1	Knob, Throttle	
3	4177920	1	Cable, Throttle	See 20.1 for Engine Connection
4	445800	1	Palnut, 3/16	
5	440116	1	Carriage Bolt, 3/8-16 x 7/8”	
6	4178004	1	Bracket, Throttle Lever Mounting	
7	360885	2	Disc, Friction	
8	3009153	1	Plate, Friction	
9	444850	1	Locknut, 3/8-16 Hex Jam	
10	400110	1	Screw, 1/4-20 x 7/8” Hex Head	
11	444708	1	Locknut, 1/4-20 Hex Center	
12	400272	2	Screw, 3/8-16 x 2-1/4 Hex Head	
13	445783	2	Nut, 3/8-16 Whizlock Flange	

> Change from previous revision

10.1 Traction Pedal Linkage

Serial No. All

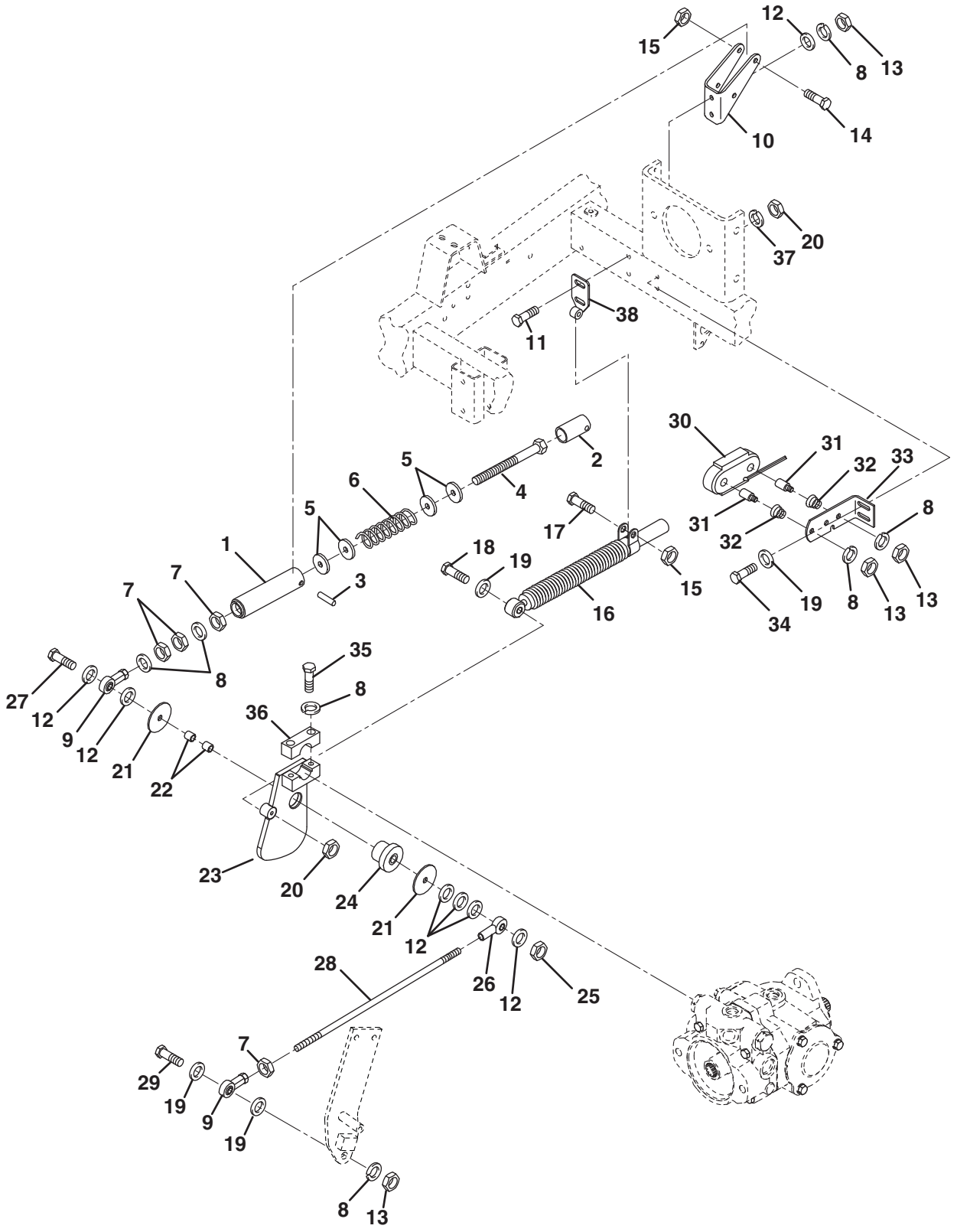


Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	4116048	1	Pedal, Hydro	
2	3007230	1	Stop, Mow Speed	
3	3003474	1	Grip, Reverse Pedal	
4	3003475	1	Grip, Forward Pedal	
5	400188	1	Screw, 5/16-18 x 1” Hex Head	
6	3002695	1	Flat Washer, 5/16	
7	444718	1	Locknut, 5/16-18 Center	
8	4183720	1	Arm, Pedal	
9	409812	2	Screw, 5/16-18 x 3/4” Thread Cutting	
10	4183480	1	Bracket, Pedal Support	
11	366877	2	Bearing, Nylon	
12	400146	1	Screw, 1/4-28 x 3/4” Hex Head	
13	446130	1	Lockwasher, 1/4 Heavy	
14	453023	1	Flat Washer, 1/4	
15	441602	2	Carriage Bolt, 5/16-18 x 3/4”	
16	445781	2	Nut, 5/16-18 Whizlock Flange	
17	1000649	1	Switch, Reverse Sensing	REFERENCE SW23, See 60.1
18	403746	2	Screw, #10-24 x 3/4” Hex Head	
19	64251-001	2	Flat Washer, #10	
20	446116	2	Lockwasher, #10	
21	444310	2	Nut, #10-24 Hex	
22	333542	2	Tie Stud	
23	445796	4	Nut, 3/8-16 Spiralock Flange	
24	4185902	AR	Shim, Switch	

> Change from previous revision

11.1 Traction Linkage

Serial No. All

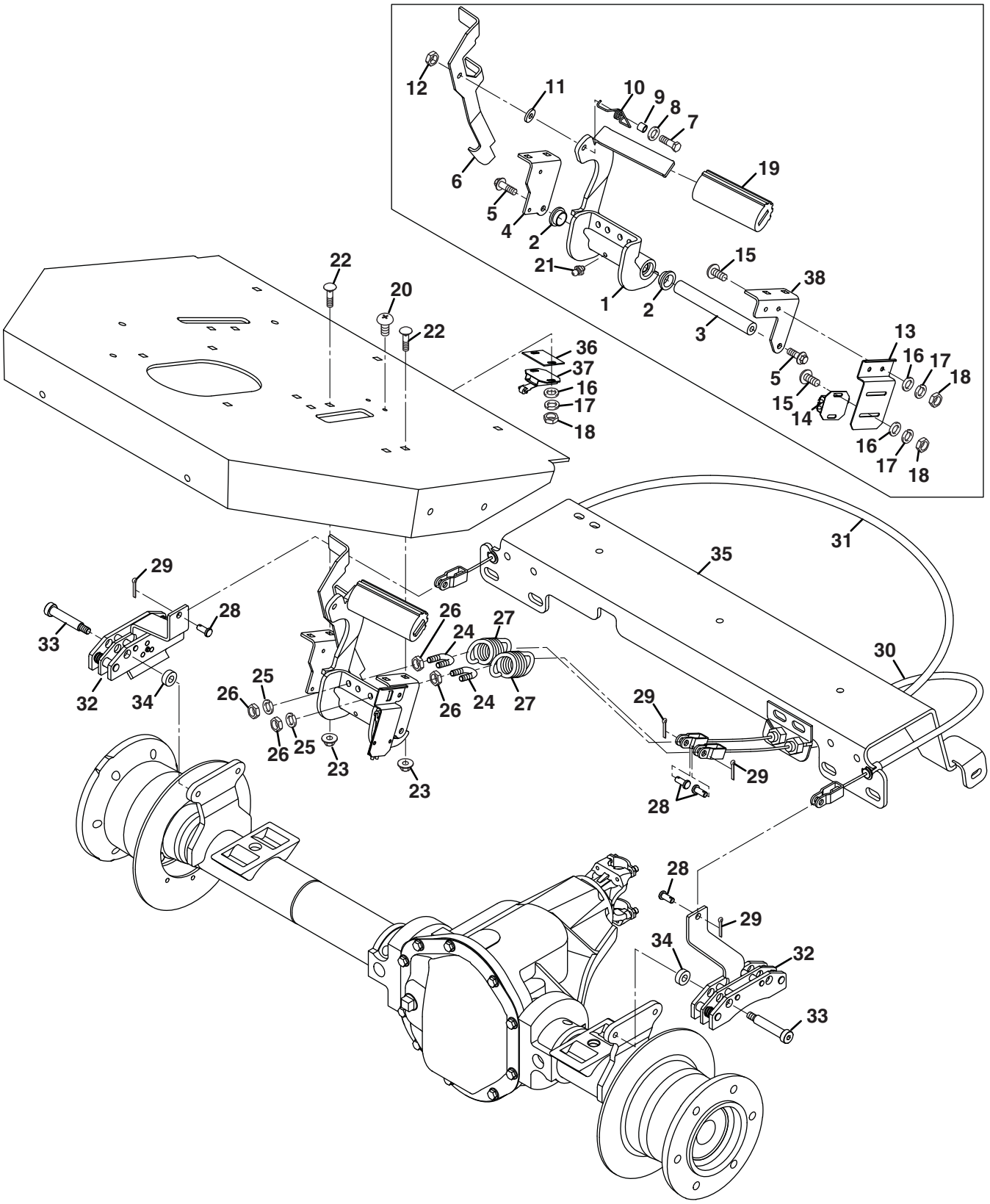


Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	2500257	1	Tube, Traction Return	
2	3007095	1	Stop, Rear Pivot	
3	3000593	1	Spacer, Traction Control	
4	358795	1	Screw, 3/8-24 x 5-1/2" Special	
5	358794	4	Washer	
6	364970	1	Spring, Compression	
7	443812	4	Nut, 3/8-24 Hex Jam	
8	446142	9	Lockwasher, 3/8 Heavy	
9	360893	2	Rod End	
10	3000594	1	Bracket, Traction Return	
11	400276	2	Screw, 3/8-16 x 3" Hex Head	
12	453011	10	Flat Washer, 3/8	
13	445806	5	Nut, 3/8-16 Hex Nylock	
14	400198	1	Screw, 5/16-18 x 2-1/4" Hex Head	
15	444718	2	Locknut, 5/16-18 Center	
16	2500175	1	Traction Damper	
17	400190	1	Screw, 5/16-18 x 1-1/4" Hex Head	
18	400194	1	Screw, 5/16-18 x 1-3/4" Hex Head	
19	452006	5	Flat Washer, 5/16	
20	443106	3	Nut, 5/16-18 Hex	
21	362819	2	Washer	
22	304718	2	Bushing	
23	4158183	1	Traction Arm	
24	359949	1	Rubber Mount, Traction Arm	
25	444762	1	Locknut, 3/8-16 Center	
26	366317	1	Rod End	
27	401028	1	Screw, 3/8-16 x 3-1/4" Hex Head	
28	4183001	1	Rod, Traction Pump Adjusting	
29	400266	1	Screw, 3/8-16 x 1-1/2" Hex Head	
30	340783	1	Magnet, Cruise Control	REFERENCE K16, See 60.1
31	367456	2	Pin, Magnet Support	
32	363771	2	Spring	
33	367457	1	Bracket, Cruise Control Magnet	
34	400202	2	Screw, 5/16-18 x 3" Hex Head	
35	400268	2	Screw, 3/8-16 x 1-3/4" Hex Head	
36	2243002	2	Block, top	
37	446136	2	Lockwasher, 5/16 Heavy	
38	4158187	1	Damper Mount	

> Change from previous revision

12.1 Brake Pedal

Serial No. All

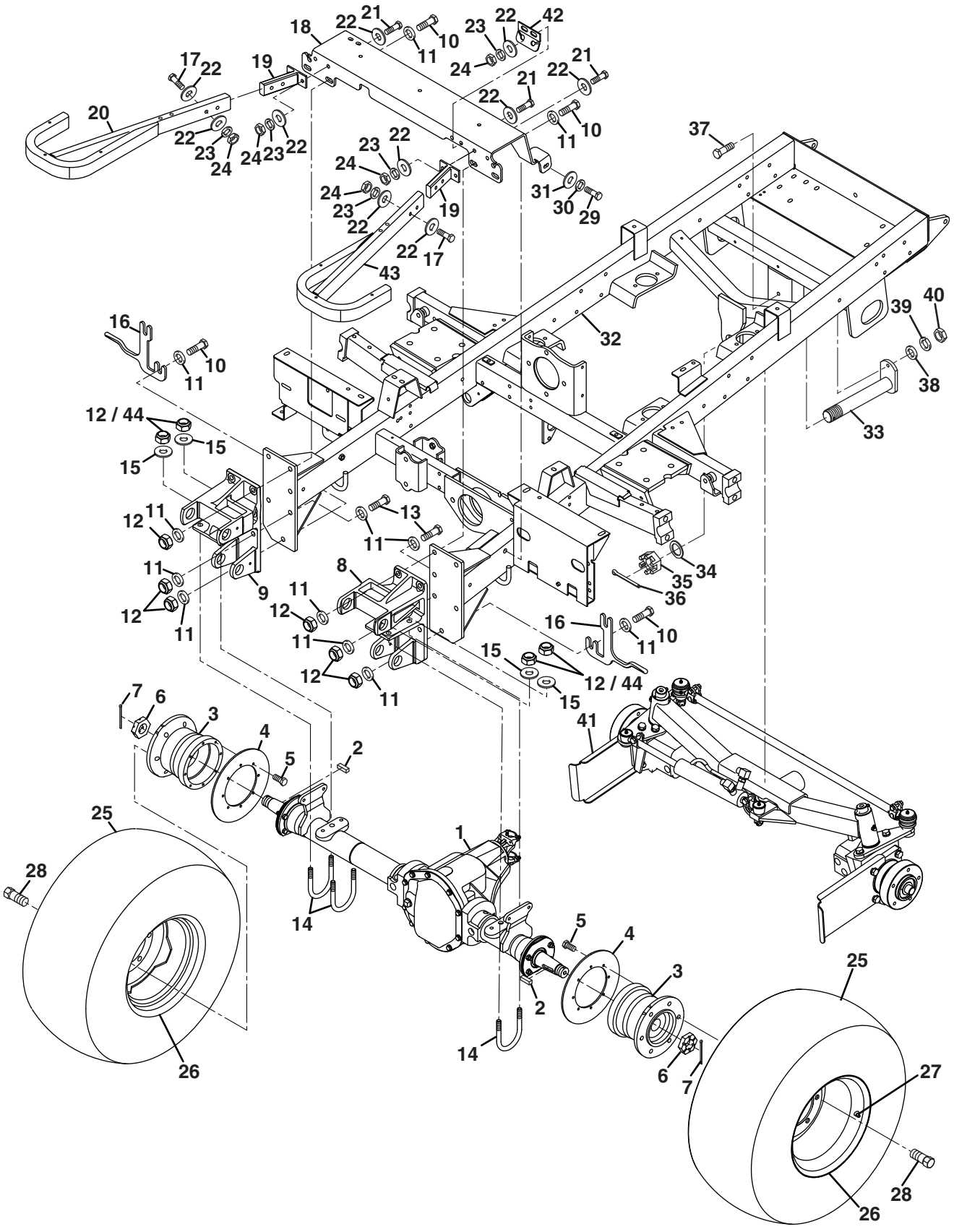


Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	4183261	1	Brake Pedal	
2	352726	2	• Bushing	
3	3006327	1	Shaft, Brake Pedal	
4	4100460	1	Arm, Brake	
5	403770	2	Screw, 5/16-18 x 3/4" Hex Flange	
6	4183260	1	Lever, Parking Brake	
7	400190	1	Screw, 5/16-18 x 1-1/4 Hex Head	
8	453009	1	Flat Washer, 5/16	
9	3007941	1	Spacer	
10	3007942	1	Spring, Torsion	
11	3002695	1	Flat Washer, 5/16	
12	444718	1	Locknut, 5/16-18 Center	
13	4185901	1	Bracket, Cruise Control Switch	
14	1000649	1	Switch, Cruise Control Cut-out	REFERENCE SW21, See 60.1
15	403860	3	Screw, #8-32 x 5/8" Truss Head	
16	453004	5	Flat Washer, #8	
17	446110	5	Lockwasher, #8	
18	444306	5	Nut, #8-32 Hex	
19	3003475	1	Grip, Pedal	
20	403862	2	Screw, #8-32 x 3/4" Truss Head	
21	471217	1	Fitting, 5/16 Straight	
22	441602	4	Carriage Bolt, 5/16-18 x 3/4"	
23	445781	4	Nut, 5/16-18 Hex Flange	
24	362744	2	U-Bolt	
25	446134	4	Lockwasher, 5/16	
26	443806	8	Nut, 5/16-18 Hex Jam	
27	4100464	2	Spring, Extension	
28	461493	4	Clevis Pin, 5/16 x 3/4"	
29	460014	4	Cotter Pin, 3/32 x 3/4"	
30	4172742	1	Cable, Left Side Brake	
31	4172743	1	Cable, Right Side Brake	
32	4172440	2	Mechanical Caliper Assembly	
33	4172900	4	Shoulder Bolt	
34	352435	4	Spacer	
35	4184644	1	Floor Support	
36	4185902	1	Shim, Switch	
37	1000649	1	Switch, Parking Brake	REFERENCE SW2, See 60.1
38	4197881	1	Arm, Brake	

> Change from previous revision

13.1 Frame and Front Axle

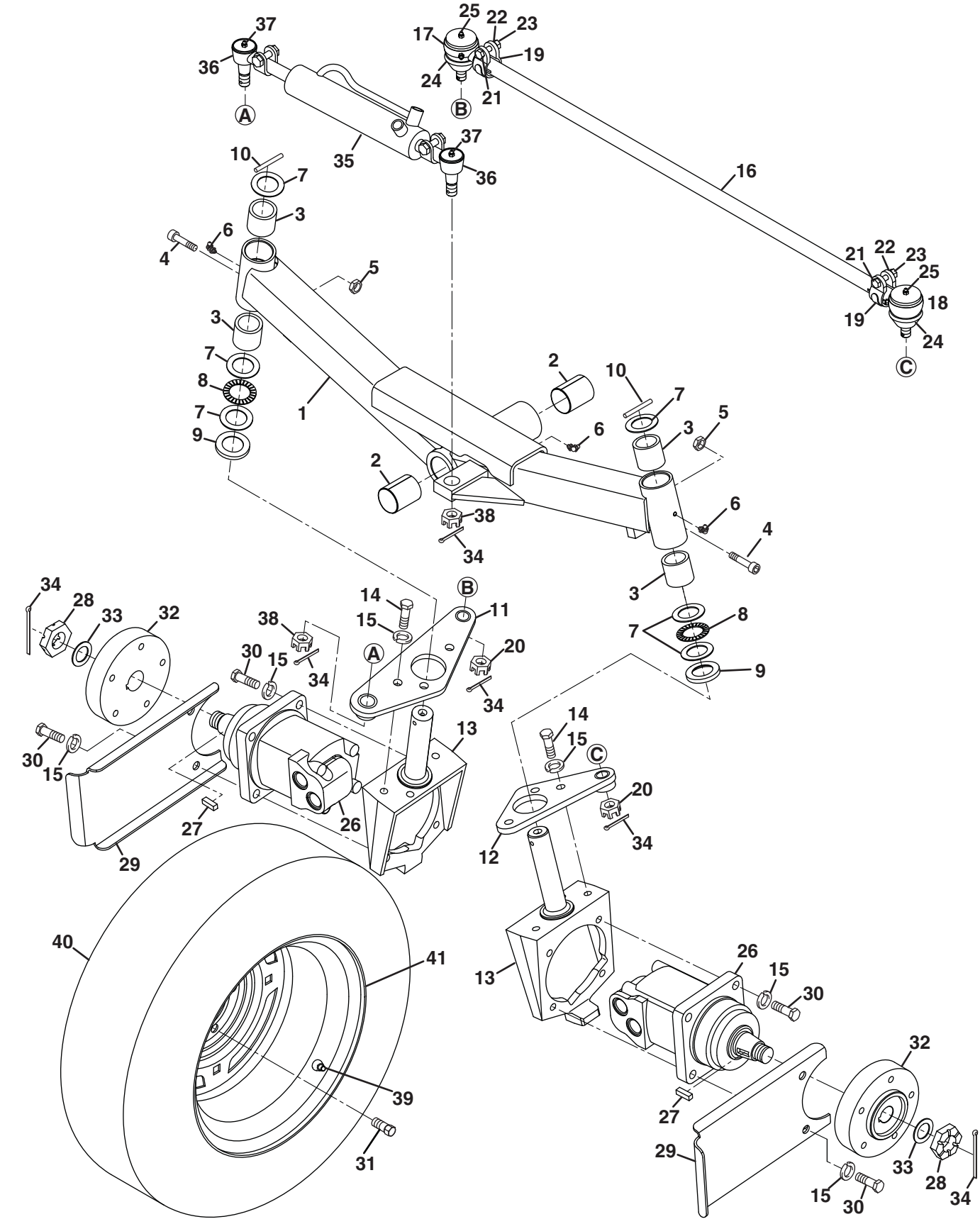
Serial No. All



Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	4172400	1	Front Axle	
2	557623	2	Key	
3	4167840	2	Hub, Wheel	
4	4167841	2	Disc, Brake	
5	400108	16	Screw, 1/4-20 x 3/4" Hex Head	
6	557624	2	Nut	
7	460093	2	Cotter Pin, 1/8 x 2-1/2"	
8	4172601	1	Left Side Axle Support	
9	4172600	1	Right Side Axle Support	
10	400412	8	Screw, 1/2-13 x 2" Hex Head	
11	453017	24	Flat Washer, 1/2	
12	64229-05	18	Nut, 1/2-13 Nylock Hex	Serial Number 69166-1656~1661
12	64229-05	12	Nut, 1/2-13 Nylock Hex	Serial Number 69166-1651~1655 Serial Number 69166-1662 and Up Serial Number 69167-All
13	400410	4	Screw, 1/2-13 x 1-3/4" Hex Head	
14	4172901	3	U-Bolt	Serial Number 69166-1656~1661
14	4204140	3	U-Bolt	Serial Number 69166-1651~1655 Serial Number 69166-1662 and Up Serial Number 69167-All
15	452012	6	Flat Washer, 1/2	
16	4190744	2	Rim, Scrapper	
17	400268	4	Screw, 3/8-16 x 1-3/4" Hex Head	
18	4184644	1	Bracket, Floor Support	
19	4190242	2	Mount, Step Support	
20	4201700	2	Step Support, Right Side	
21	400264	6	Screw, 3/8-16 x 1-1/4" Hex Head	
22	452007	20	Flat Washer, 3/8	
23	446142	10	Lockwasher, 3/8 Heavy	
24	444762	10	Locknut, 3/8-16 Center	
25	366292	2	Tire, 26 x 12 - 12, 6 Ply Multi-Trac	
26	5002574	2	Wheel Rim, 12 x 10.5	
27	360111	2	Inflation Valve	
28	353914	12	Wheel Bolt, 1/2-20 x 3/4"	
29	400276	2	Screw, 3/8-16 x 3" Hex Head	
30	446140	2	Lockwasher, 3/8	
31	452008	2	Flat WAsher, 3/8	
32	4167723	1	Frame	
33	163927	1	Pivot, Steering Axle	
34	364830	3	Washer	
35	445642	1	Nut, 1-1/2-12 Slotted Hex	
36	460072	1	Cotter Pin, 1/4 x 2-1/2"	
37	400266	1	Screw, 3/8-16 x 1-1/2" Hex Head	
38	452006	1	Flat Washer, 3/8	
39	446142	1	Lockwasher, 3/8 Heavy	
40	443110	1	Nut, 3/8-16 Hex	
41	REF	1	Steering Axle	See 14.1
42	4197280	1	Bracket, Brake Cable	
43	4201701	1	Step Support, Left Side	
44	4204160	6	Locknut, 1/2-13 Hex	Serial Number 69166-1651~1655 Serial Number 69166-1662 and Up Serial Number 69167-All

14.1 Steering Axle

Serial No. All

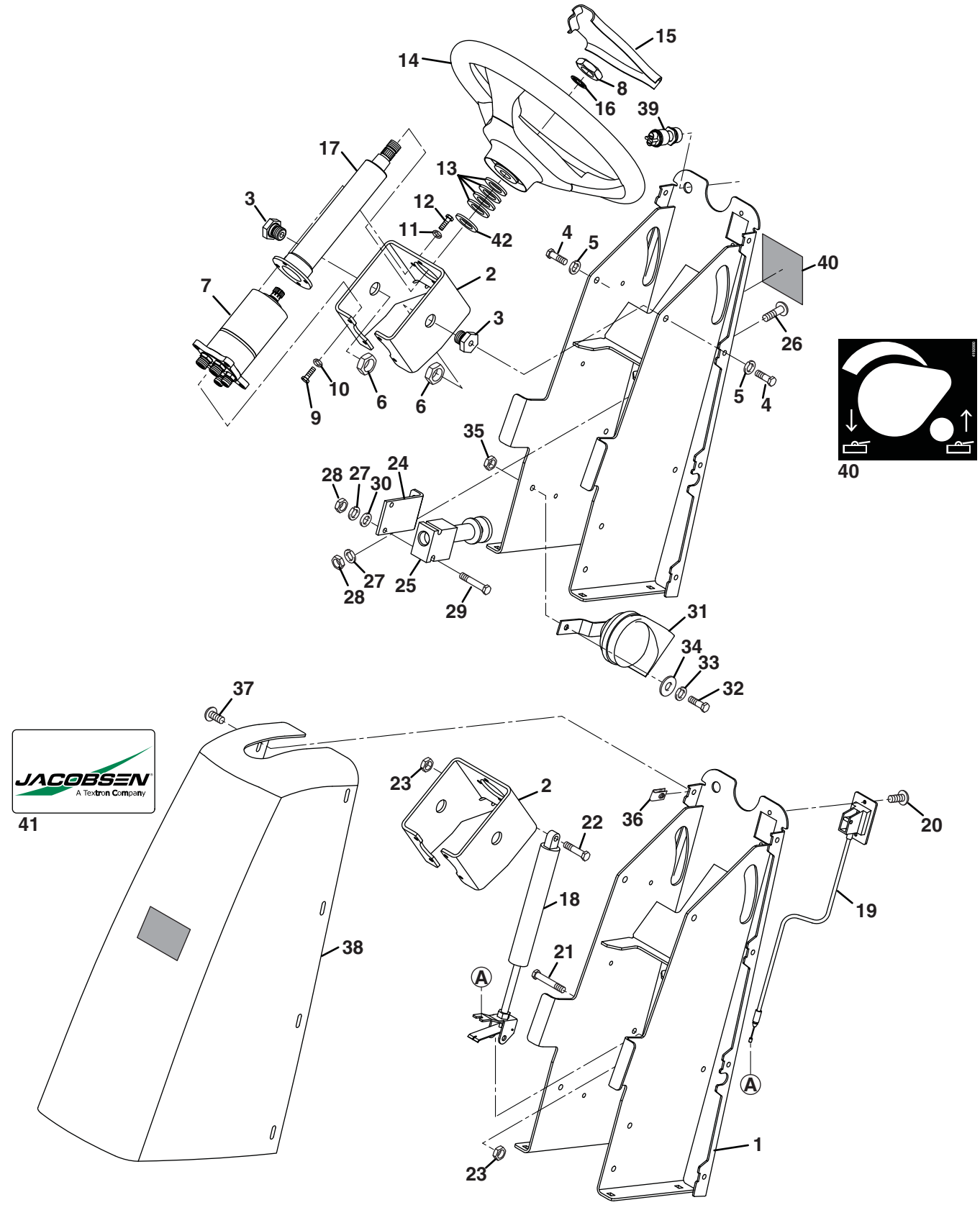


Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	2720313	1	Steering Axle	
2	2720298	2	• Bushing, Axle Pivot	
3	363562	4	• Bushing, Mount Pivot	
4	4121827	2	Screw, 1/2-20 x 1-3/4" Socket Head	
5	443820	2	Nut, 1/2-20 Hex Jam	
6	471221	3	Grease Fitting, 90°	
7	361648	6	Washer, Thrust	
8	361647	2	Thrust Bearing	
9	367350	2	Washer, Thrust	
10	461393	2	Roll Pin, 1/4 x 2"	
11	4121825	1	Right Side Steering Arm	
12	4121826	1	Left Side Steering Arm	
13	2000057	2	Motor Mount	
14	401226	6	Screw, 1/2-13 x 1" Hex Grade 8	
15	446154	14	Lockwasher, 1/2 Heavy	
16	4121946	1	Tie Rod	
17	4121829	1	• Tie Rod End, Right Side	
18	4121828	1	• Tie Rod End, Left Side	
19	322847	2	• Clamp	
20	4124204	2	• Nut, 9/16-18 Slotted Hex	
21	400228	2	• Screw, 5/16-24 x 1-1/4" Hex Head	
22	446136	2	• Lockwasher, 5/16 Heavy	
23	443108	2	• Nut, 5/16-24 Hex	
24	4121986	2	• Cover, Dust	
25	471214	2	• Grease Fitting	
26	4178560	2	Rear Wheel Motor	See 56.1
27	554780	1	• Key	
28	554779	1	• Nut	
29	339092	2	Guard, Wheel Motor Hose	
30	400410	8	Screw, 1/2-13 x 1-3/4" Hex Head	
31	315298	10	Bolt, Wheel	
32	2720841	2	Hub, Wheel	
33	361451	2	Washer	
34	460032	6	Cotter Pin, 1/8 x 1-1/2"	
35	4138510	1	Steering Cylinder	
	4137139	1	• Seal Kit	
36	503095	2	• Ball Joint	
37	471216	2	• Grease FItting, Straight	
38	445672	2	Nut, 5/8-18 Slotted Hex	
39	360111	2	Valve, Inflation	
40	366310	2	Tire, 23 x 10.5-12 4 Ply	
41	5002894	2	Rim, 12 x 8.5	

> Change from previous revision

15.1 Steering Tower

Serial No. All

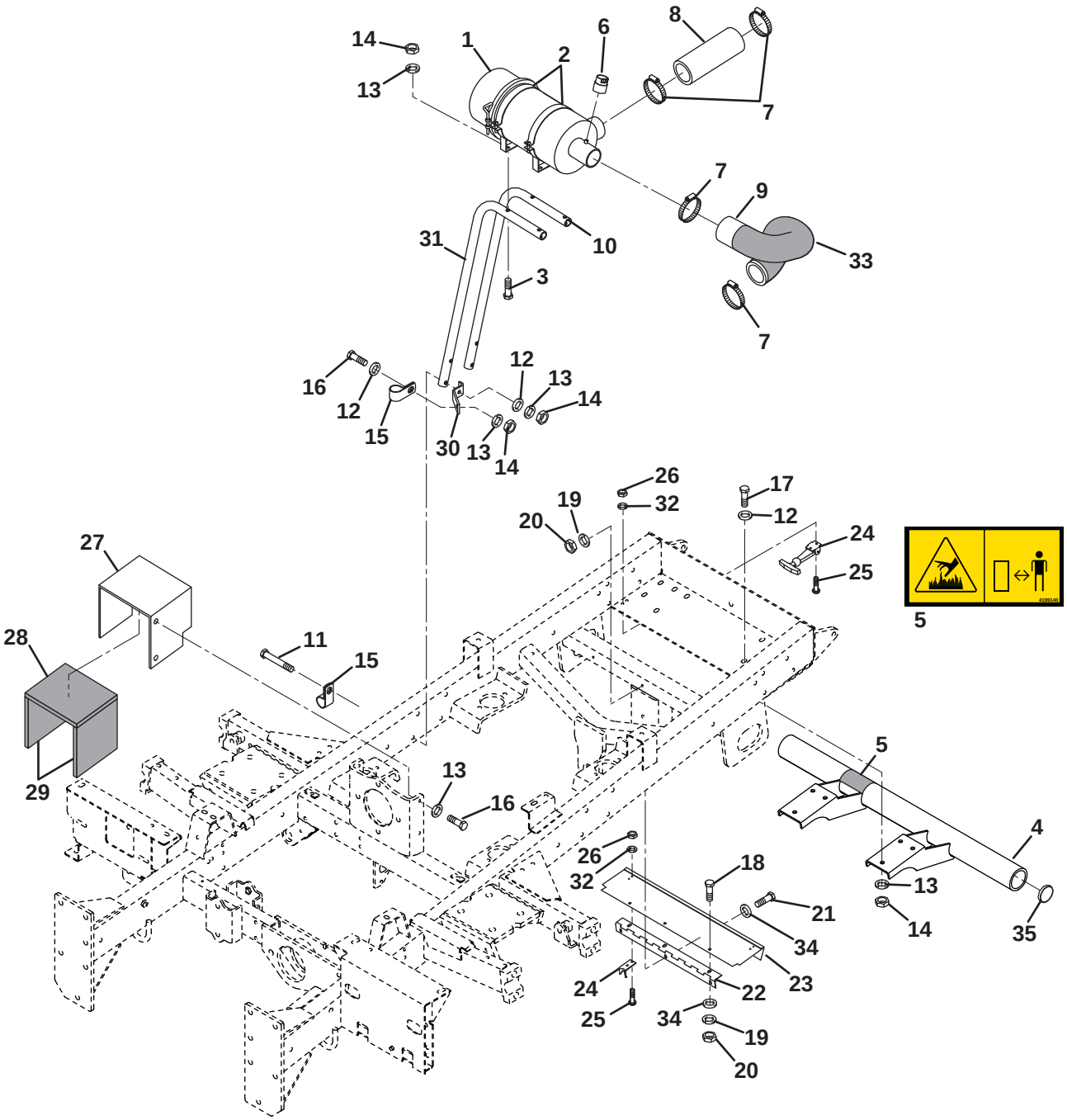


Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	4185325	1	Steering Tower	
2	4196200	1	Bracket, Steering Pump	
3	3005934	2	Shoulder Bolt, 3/4-10	
4	400258	2	Screw, 3/8-16 x 3/4" Hex Head	
5	446142	2	Lockwasher, 3/8-16 Heavy	
6	444849	2	Locknut, 3/4-10 Center	
7	4197880	1	Steering Valve	
	4197940	1	• Seal Kit	
8	443828	1	Nut, 5/8-18 Hex Jam	
9	450191	4	Screw, M8-1.25 x 20 mm Hex Head	
10	450411	4	Lockwasher, M8	
11	450410	4	Lockwasher, M6	
12	450171	4	Screw, M6-1 x 20 mm Hex Head	
13	2811547	4	Washer, Steering Wheel	
14	2811364	1	Steering Wheel	
15	2811365	1	• Cover, Steering Wheel	
16	447224	1	Lockwasher, 5/8 Internal Tooth	
17	4184620	1	Shaft, Steering	
18	5002918	1	Gas Spring	
19	5002919	1	Cable, Actuator	
20	416911	2	Screw, #10-24 x 1/2" Thread Cutting	
21	400216	1	Screw, 5/16-18 x 2-3/4" Hex Head	
22	400192	1	Screw, 5/16-18 x 1-1/2" Hex Head	
23	444718	2	Locknut, 5/16-18 Center	
24	367465	1	Bracket, Valve Mounting	
25	132523	1	Valve, Weight Transfer	
	555862	1	• Cartridge, Valve	
	5003579	1	• Seal Kit	
26	404022	2	Screw, 1/4-20 x 1" Truss Head	
27	446130	4	Lockwasher, 1/4 Heavy	
28	443102	4	Nut, 1/4-20 Hex	
29	400120	2	Screw, 1/4-20 x 2" Hex Head	
30	453023	2	Flat Washer, 1/4	
31	5000917	1	Horn	REFERENCE U9, See 60.1
32	400184	1	Screw, 5/16-18 x 3/4" Hex Head	
33	446136	1	Lockwasher, 5/16 Heavy	
34	452006	1	Flat Washer, 5/16	
35	443106	1	Nut, 5/16-18 Hex	
36	445245	8	Tinnerman Nut	
37	404016	8	Screw, 1/4-20 x 5/8" Truss Head	
38	4184622	1	Cover, Steering Tower	
39	162739	1	Switch, Horn	REFERENCE SW20, See 60.1
40	4192000	1	Decal, Weight Transfer	
41	4182386	1	Decal, Jacobsen Emblem	
42	4201840	1	Seal	

> Change from previous revision

16.1 Air Cleaner

Serial No. All

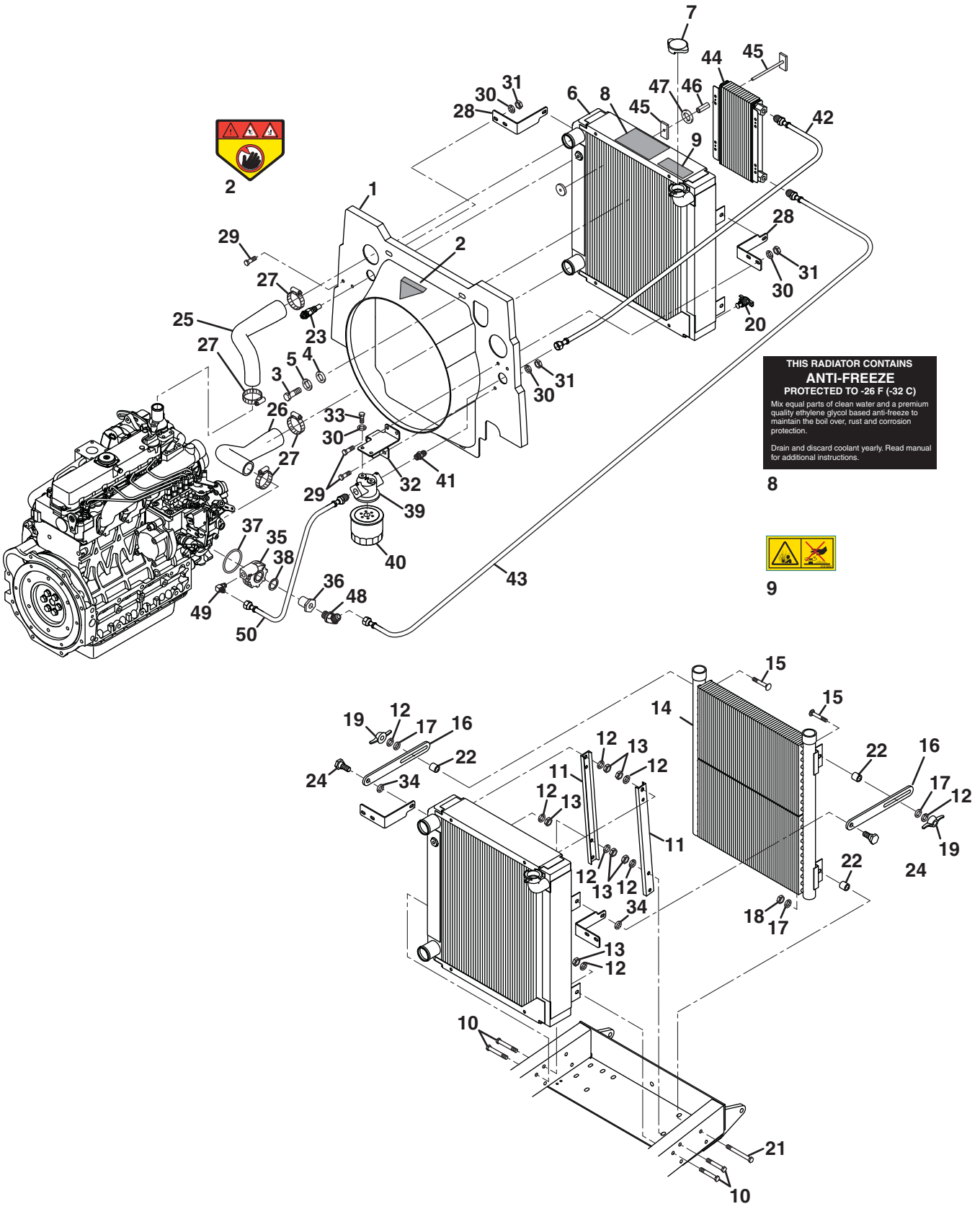


Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	122907	1	Air Filter Assembly	
	2500704	1	• Wing Nut and Gasket Kit	
	549633	1	• Element, Air Cleaner	
2	131059	2	Band, Air CLeaner Mounting	
3	400266	4	Screw, 3/8-16 x 1-1/2" Hex Head	
4	4193342	1	Rear Bumper	
5	4199140	1	• Decal, Heat Warning	
6	364883	1	Switch, Air Cleaner Service	REFERENCE SW11, See 60.1
7	359615	4	Clamp, Hose	
8	3008512	1	Hose, Air Intake	
9	390961	1	Hose, Air Cleaner to Engine	
10	338940	1	Support, Rear Air Cleaner	
11	401030	4	Screw, 3/8-16 x 3-3/4" Hex Head	
12	453011	15	Flat Washer, 3/8	
13	446142	17	Lockwasher, 3/8 Heavy	
14	445806	15	Nut, 3/8-16 Hex Nylock	
15	364190	2	Clamp	
16	400258	5	Screw, 3/8-16 x 3/4" Hex Head	
17	400262	6	Screw, 3/8-16 x 1" Hex Head	
18	404014	3	Screw, 1/4-20 x 1/2" Truss Head	
19	446130	6	Lockwasher, 1/4 Heavy	
20	443102	6	Nut, 1/4-20 Hex	
21	400124	3	Screw, 1/4-20 x 2-1/2" Hex Head	
22	3004588	1	Hinge, Drain Panel	
23	3004563	1	Drain Panel	
24	161688	2	Latch	
25	402006	8	Screw, #6-32 x 1/2" Slotted	
26	444304	8	Nut, #6-32 Hex	
27	366352	1	Cover, Drive Shaft	
28	366368	1	Foam, Top	
29	366369	2	Foam, Side	
30	366342	1	Bracket, Clamp Mounting	
31	338939	1	Support, Front Air Cleaner Support	
32	446116	8	Lockwasher, #6	
33	2208292	1	Cover, Spiraco Hose	
34	453023	6	Flat Washer, 1/4	
35	366403	2	Plug, Tube	

> Change from previous revision

17.1 Radiator and Oil Cooler

Serial No. All

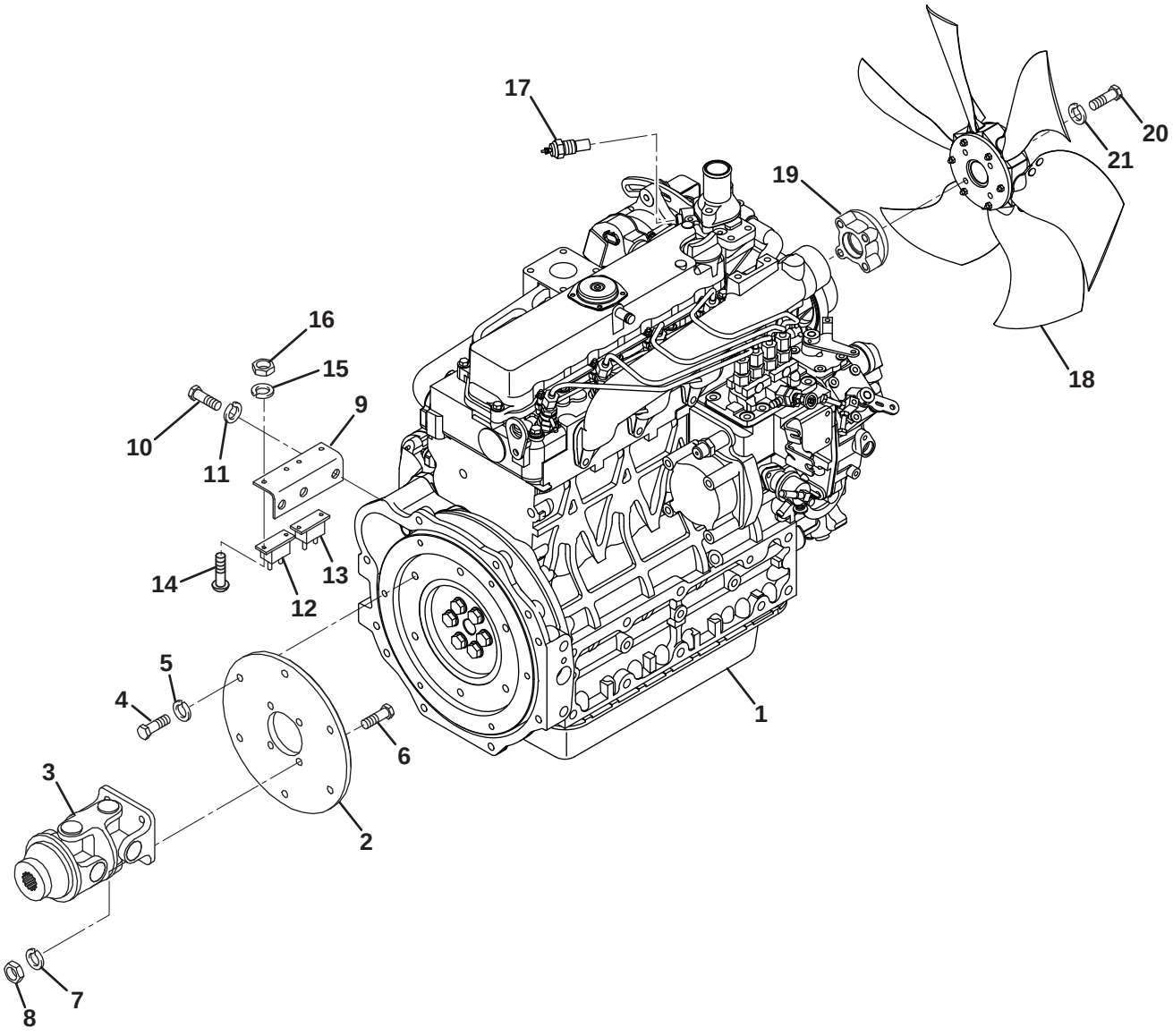

THIS RADIATOR CONTAINS
ANTI-FREEZE
PROTECTED TO -26 F (-32 C)
Mix equal parts of clean water and a premium quality ethylene glycol based anti-freeze to maintain the boil over, rust and corrosion protection.
Drain and discard coolant yearly. Read manual for additional instructions.
8
9

Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	4193343	1	Radiator Shroud	
2	4164381	1	• Decal, Danger	
3	400182	4	Screw, 5/16-18 x 5/8" Hex Head	
4	452006	4	Flat Washer, 5/16	
5	446136	4	Lockwasher, 5/16 Heavy	
6	503609	1	Radiator	Includes Decals
7	555867	1	• Radiator Cap	
8	363995	1	• Decal, Antifreeze	
9	4181862	1	• Decal, Radiator Cap Warning	
10	400286	6	Screw, 3/8-16 x 2-3/4" Hex Head	
11	4189541	2	Bracket, Radiator Support	
12	446142	10	Lockwasher, 3/8 Heavy	
13	445806	8	Nut, 3/8-16 Hex Nylock	
14	117076	1	Oil Cooler	
15	441630	2	Carriage Bolt, 3/8 x 2"	
16	338979.7	2	Plate, Oil Cooler Pivot	
17	453011	4	Flat Washer, 3/8	
18	444762	2	Locknut, 3/8-16 Center	
19	445636	2	Nut, 3/8-16 Wing	
20	162479	1	Draincock	
21	400278	2	Screw, 3/8-16 x 3-1/2" Hex Head	
22	366600	4	Spacer, Oil Cooler	
23	162722	1	Water Temperature Sender	REFERENCE U10, See 60.1
24	344996	2	Bolt, 3/8-16 Shoulder	
25	390962	1	Hose, Upper Radiator	
26	390963	1	Hose, Lower Radiator	
27	326112	4	Hose Clamp	
28	4189340	2	Bracket, Remote Filter	
29	400186	5	Screw, 5/16-18 x 7/8" Hex Head	
30	446136	7	Lockwasher, 5/16 Heavy	
31	443106	5	Nut, 5/16-18 Hex	
32	4186583	1	Bracket, Remote Oil Filter	
33	450190	2	Screw, M8-1.25 x 16 mm Hex Head	
34	453009	2	Flat Washer	
	4133238	1	Kit, Remote Oil Filter	Included with Engine
35	4133239	1	• Adapter, Engine Oil Filter	
36	4133240	1	• Plug, Engine Oil FIlter	
37	4133241	1	• O-Ring	
38	4133242	1	• Washer	
39	4133243	1	• Head, Engine Oil FIlter	
40	4113986	1	Engine Oil Filter	Included with Engine
41	4186441	1	Adapter, 1/2 NPT x 13/16 ORFS	
42	4182500	1	Hose, Filter Head to Cooler	
43	4182501	1	Hose, Cooler to Engine Oil Adapter	
44	4182460	1	Engine Oil Cooler	
45	4133252	4	Tie, 3 Piece Oil Cooler Mounting	
46	4197640	4	Spacer, Oil Cooler	
47	452004	4	Flat Washer, 1/4	
48	4197641	1	Adapter, 3/8 NPT x 13/16 ORFS 45°	
49	4137099	1	Adapter, 3/8 NPT x 13/16 ORFS 90°	
50	4135261	1	Hose, Engine Filter Adapter to Filter Head	

> Change from previous revision

18.1 Engine

Serial No. All



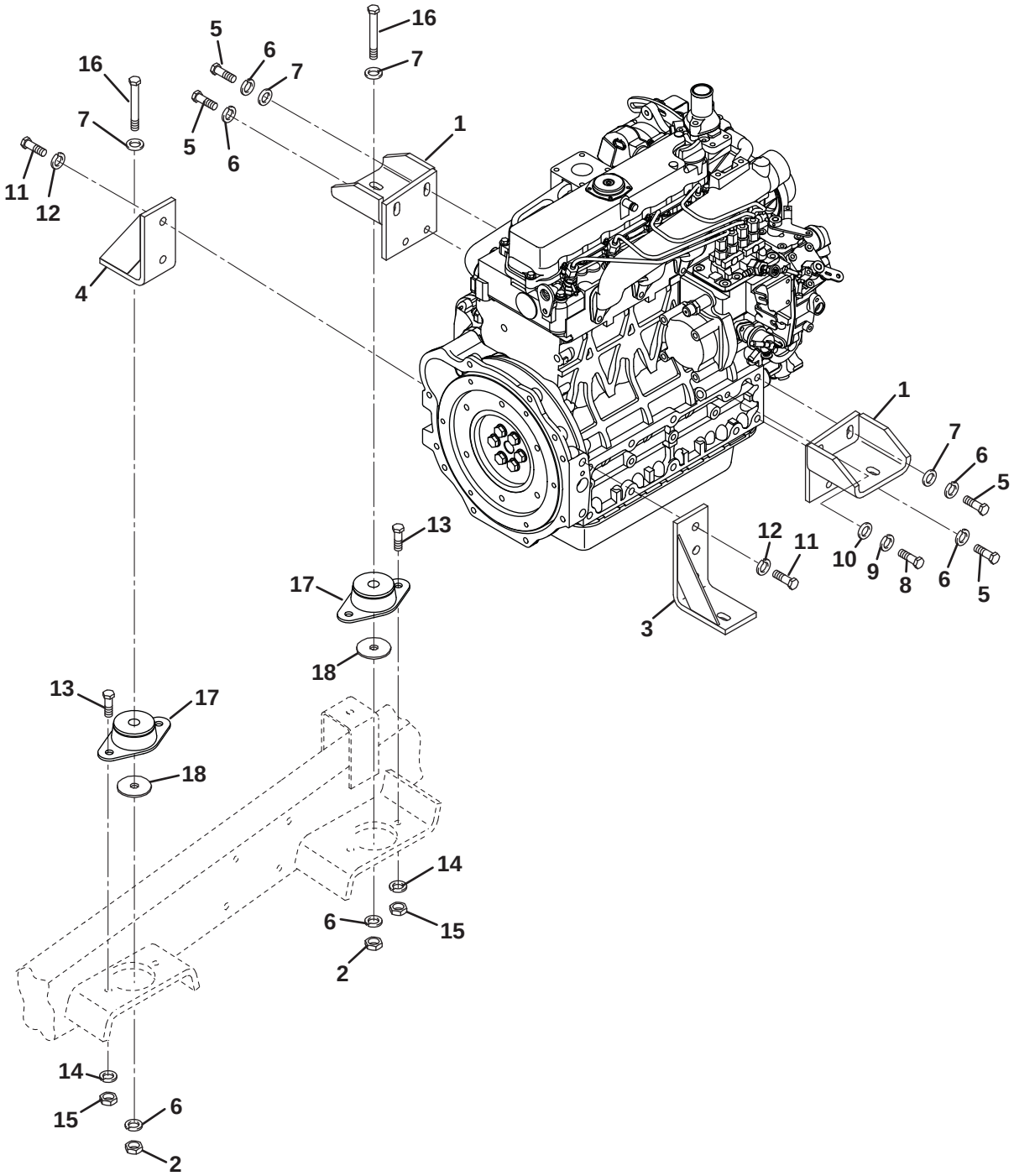
Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	4161120	1	Engine, Kubota V2203M	
1	4200140	1	Engine, Kubota V2203M EC	For complete listing of engine service parts, See Engine Parts Manual
	4113986	1	• Engine Oil Filter	
	557619	1	• Cartridge, Fuel Filter	
	5000938	1	• Alternator	REFERENCE U1, See 60.1
	556988	1	• Starter	REFERENCE M1, See 60.1
	554018	1	• Engine Oil Pressure Switch	REFERENCE SW17, See 60.1
	556996	4	• Glow Plug	REFERENCE R1, See 60.1
	4134270	1	• Fuel Solenoid	REFERENCE K13, See 60.1
l	4134323	1	• Belt, Fan	Used on engines with 3-7/8 in. (99 mm) fan pulley only.
l	4202300	1	• Belt, Fan	Used on engines with 4-11/16 in. (119 mm) fan pulley only.
2	338991	1	Pump Drive Flange	
3	163916	1	U-Joint	
	4113644	1	• Yoke, Engine Side Flange	
	500562	2	• Cross Kit	
4	362263	6	Screw, M10-1.25 x 25 mm	Metric Grade 8.8
5	363485	6	Lockwasher, M10	
6	400264	4	Screw, 3/8-16 x 1-1/4" Hex Head	
7	446142	4	Lockwasher, 3/8 Heavy	
8	443110	4	Nut, 3/8-16 Hex	
9	366108	1	Bracket, Circuit Breaker Mounting	
10	365980	2	Screw, M12-1.25 x 20 mm	Metric Grade 8.8
11	446154	2	Lockwasher, 1/2 Heavy	
12	361439	1	Circuit Breaker, 50 Amp Main	REFERENCE CB6, See 60.1
13	361439	1	Circuit Breaker, 50 Amp Alternator	REFERENCE CB7, See 60.1
14	402120	4	Screw, #10-24 x 5/8" Slotted	
15	446118	4	Lockwasher, #10 Medium	
16	444310	4	Nut, #10-24 Hex	
17	367551	1	Switch, Temperature	REFERENCE SW16, See 60.1
18	4199860	1	Fan, Suction	
19	553174	1	Spacer, Fan	
20	450012	4	Screw, M6-1 x 85 mm Flange	
21	450410	4	Lockwasher, M6	

l	Before ordering belt, measure the diameter of the fan pulley. The two belts are not interchangeable.

> Change from previous revision

19.1 Engine Mounts

Serial No. All

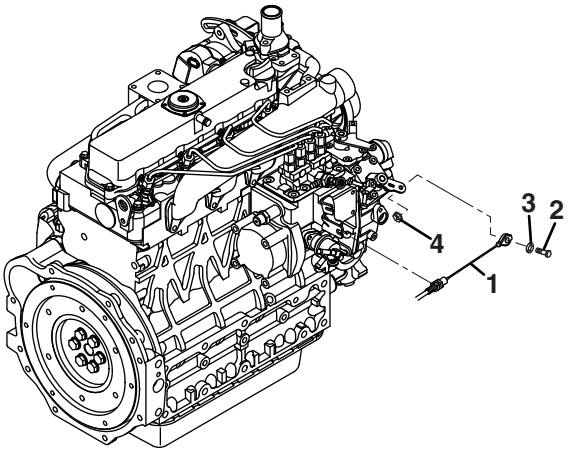


Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	4163820	2	Mount, Rear Engine	
2	443118	4	Nut, 1/2-13 Hex	
3	4197821	1	Mount, Left Front Engine	
4	132425	1	Mount, Right Front Engine	
5	365979	7	Screw, M12-1.25 x 25 mm	Metric Grade 8.8
6	446154	11	Lockwasher, 1/2 Heavy	
7	453017	7	Flat Washer, 1/2	
8	362263	1	Screw, M10-1.25 x 25 mm	Metric Grade 8.8
9	363485	1	Lockwasher, M10	
10	453013	1	Flat Washer, 7/16	
11	365981	4	Screw, M14-1.5 x 25 mm	Metric Grade 8.8
12	446160	4	Lockwasher, 9/16 Heavy	
13	400262	8	Screw, 3/8-16 x 1” Hex Head	
14	446142	8	Lockwasher, 3/8 Heavy	
15	443110	8	Nut, 3/8-16 Hex	
16	400428	4	Screw, 1/2-13 x 2-3/4” Hex Head	
17	4185160	4	Isolator, Engine	
18	311879	4	Washer, Isolator	

> Change from previous revision

20.1 Engine Fuel Control

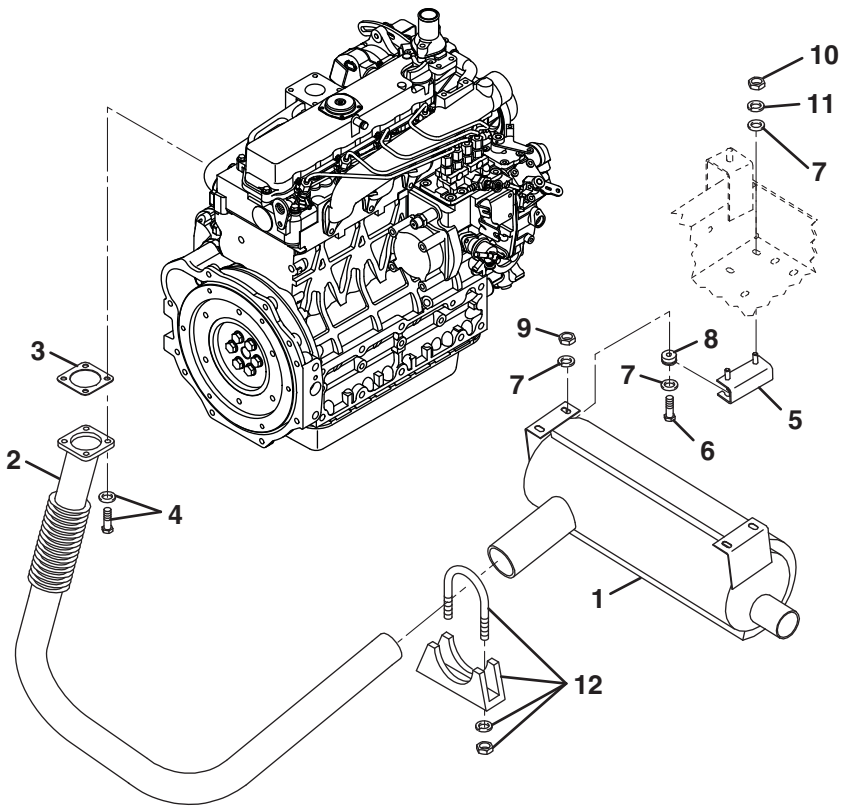
Serial No. All



Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	4177920	1	Throttle Cable	See 9.1
2	400108	1	Screw, 1/4-20 x 3/4" Hex Head	
3	453023	1	Flat Washer, 1/4	
4	444708	1	Locknut, 1/4-20 Center	

> Change from previous revision

21.1 Muffler

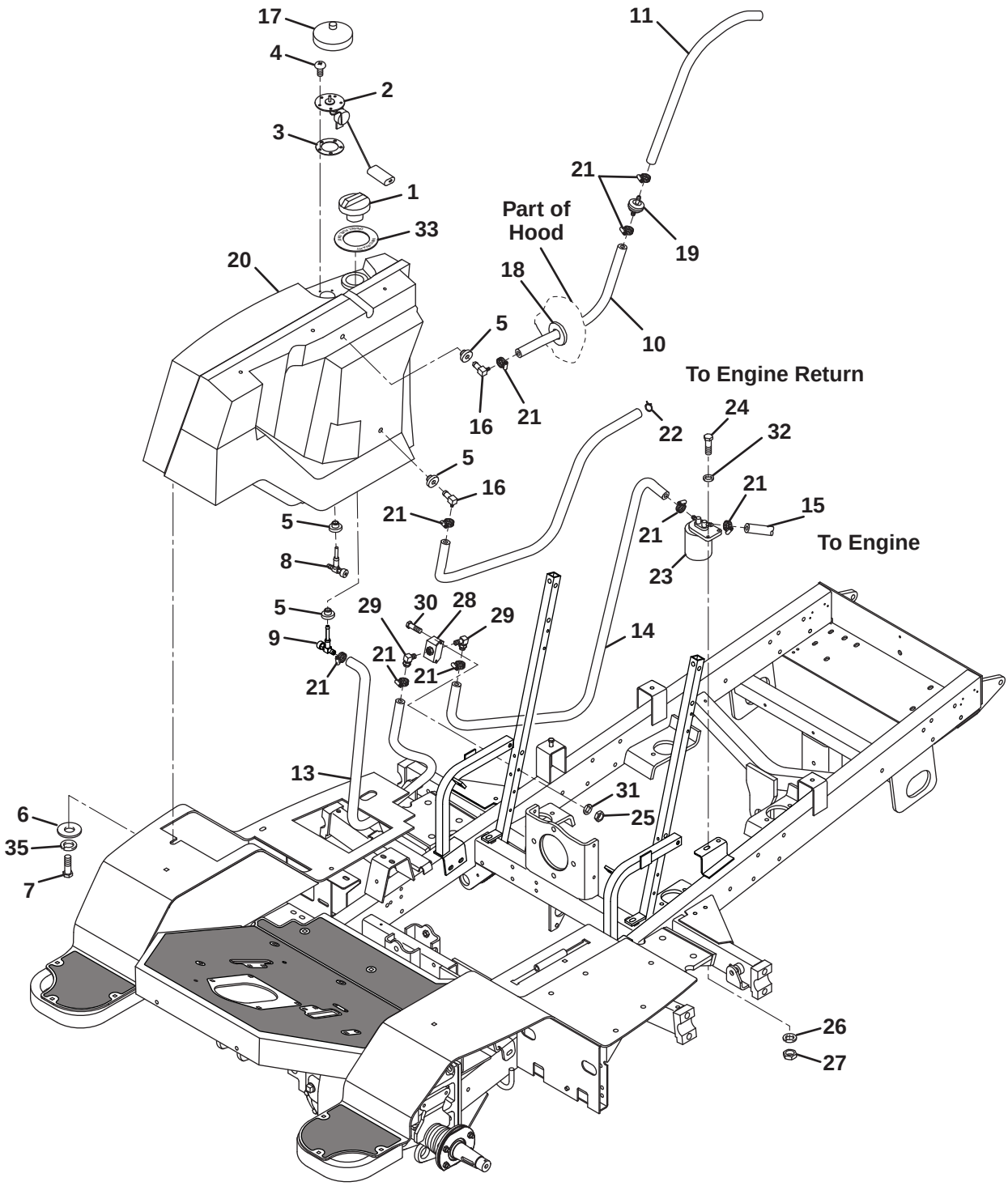


Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	1001226	1	Muffler	
2	1001251	1	Exhaust Pipe	
3	553020	1	Gasket, Exhaust	Included with Engine
4	594331	4	Bolt and Lockwasher Set	Included with Engine
5	1000050	2	Muffler Bracket	
6	400188	4	Screw, 5/16-18 x 1” Hex Head	
7	452006	12	Flat Washer, 5/16	
8	3000098	4	Mount, Isolation	
9	444718	4	Locknut, 5/16-18 Center	
10	443106	4	Nut, 5/16-18 Hex	
11	446136	4	Lockwasher, 5/16 Heavy	
12	162236	1	Clamp, 2-1/8” Muffler	

> Change from previous revision

22.1 Fuel Tank

Serial No. All

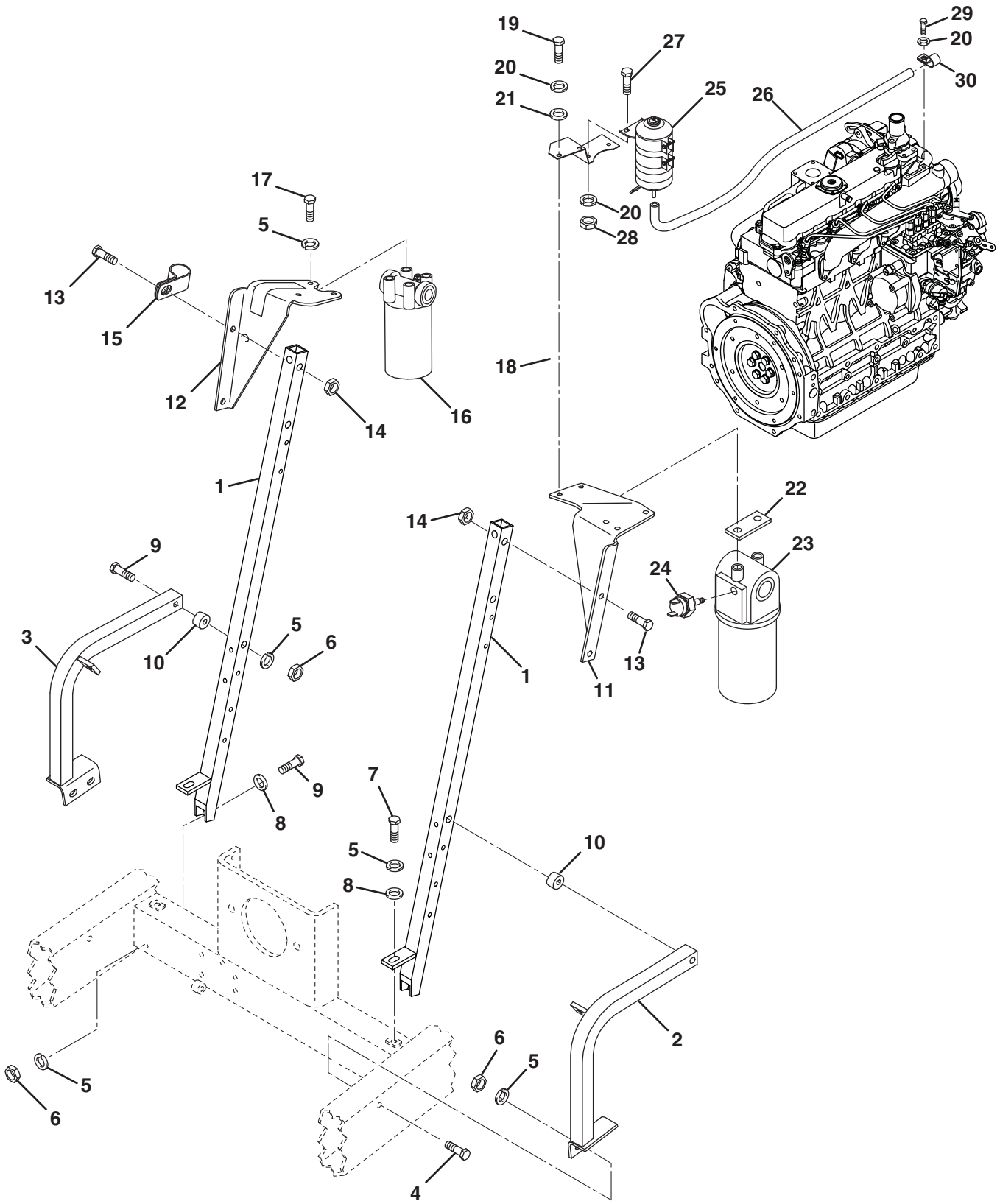


Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	163987	1	Fuel Cap	
2	163986	1	Fuel Sender	REFERENCE U8, See 60.1
3	148081	1	• Gasket	
4	403910	5	Screw, #10-24 x 1/2" Truss Head	
5	361117	4	Bushing, Fuel	
6	452006	2	Flat Washer, 5/16	
7	400188	2	Screw, 5/16-18 x 1" Hex Head	
8	132647	1	Valve, Drain	
9	1001311	1	Valve, Shut Off	
10	554752	1	Hose, 3/16" Fuel (Cut to 37")	Tank to Breather Filter
11	554752	1	Hose, 3/16" Fuel (Cut to 12")	Breather Filter to Clamp
12	554752	1	Hose, 3/16" Fuel (Cut to 44")	Engine Return to Tank
13	554748	1	Hose, 5/16" Fuel (Cut to 22")	Tank To Fuel Pump
14	554748	1	Hose, 5/16" Fuel (Cut to 26")	Fuel Pump to Fuel Filter
15	554748	1	Hose, 5/16" Fuel (Cut to 9-1/2")	Fuel Filter to Engine
16	361748	2	Valve, Overflow	
17	340481	1	Cover, Sender	
18	352604	1	Grommet	
19	554596	1	Filter, Fuel Breather	
20	4198820	1	Fuel Tank	
21	48540-01	10	Clamp, Hose	
22	472801	1	Clamp, Hose	
23	503626	1	Fuel Filter	Included with Engine
	557619	1	• Cartridge, Fuel Filter	
24	400264	2	Screw, 3/8-16 x 1-1/4" Hex Head	
25	443102	2	Nut, 1/4-20 Hex	
26	446142	2	Lockwasher, 3/8 Heavy	
27	443110	2	Nut, 3/8-16 Hex	
28	163574	1	Fuel Pump	REFERENCE U9, See 60.1
29	365976	2	Elbow, 90°	
30	400118	2	Screw, 1/4-20 x 1-3/4" Hex Head	
31	446130	2	Lockwasher, 1/4 Heavy	
32	453011	2	Flat Washer	
33	4181262	1	Tag, Diesel Fuel	
34	473108	1	Bullet, Connector	Not Shown, Fuel Pump Pos. Wire
35	446134	2	Lockwasher, 5/16	

> Change from previous revision

23.1 Tank Support

Serial No. All

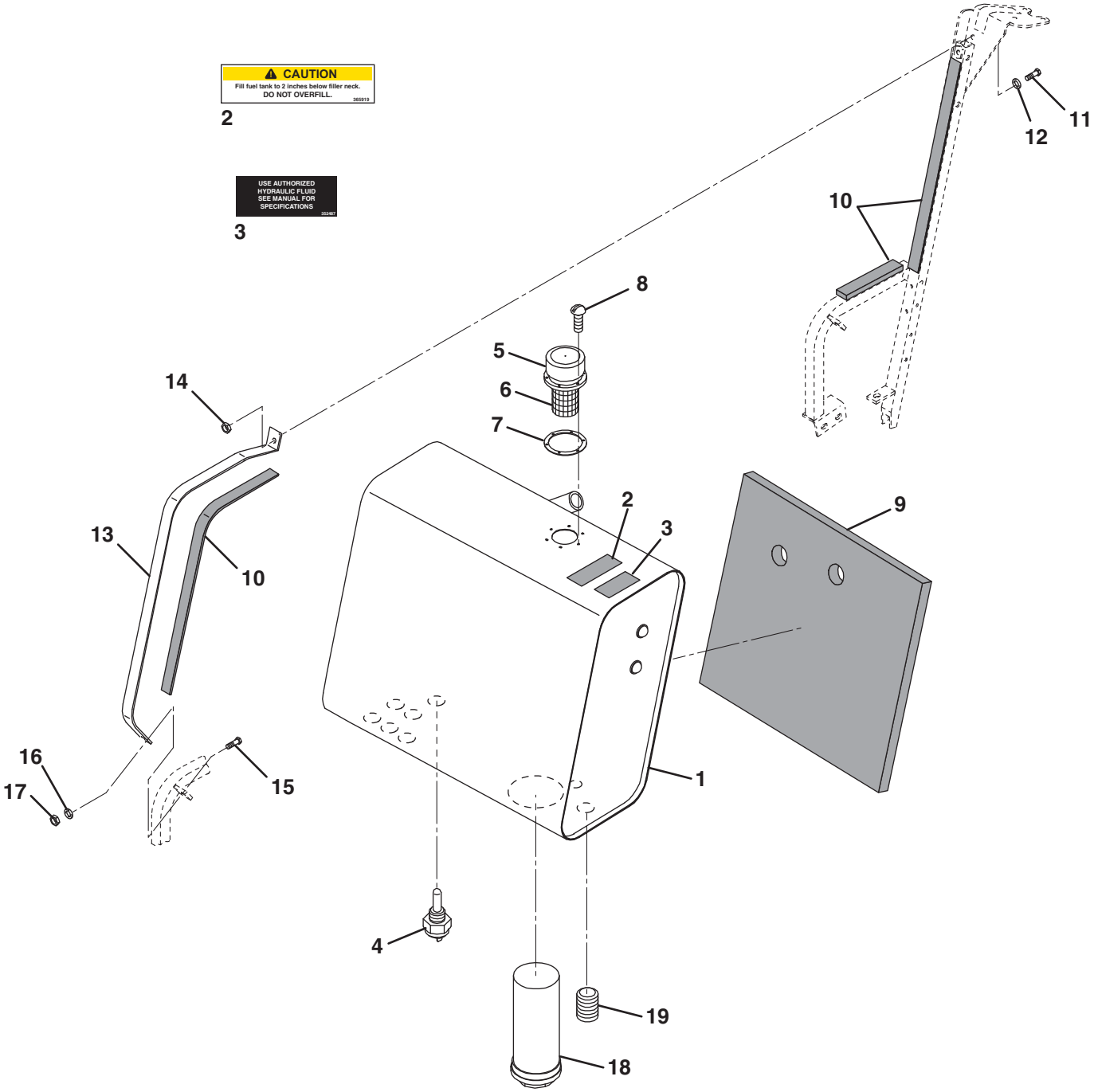


Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	4175121	2	Support, Rear Tank	
2	132432	1	Support, Left Side Tank	
3	132431	1	Support, Right Side Tank	
4	400286	2	Screw, 3/8-16 x 2-3/4”	
5	446142	12	Lockwasher, 3/8 Heavy	
6	445806	6	Nut, 3/8-16 Hex Nylock	
7	400262	2	Screw, 3/8-16 x 1” Hex Head	
8	453011	4	Flat Washer, 3/8	
9	400278	4	Screw, 3/8-16 x 3-1/2” Hex Head	
10	350685	2	Spacer, Tank Support	
11	3001740	1	Bracket, Return Filter	
12	503613	1	Bracket, Charge Filter	Includes Decal
13	400268	4	Screw, 3/8-16 x 1-3/4” Hex Head	
14	444762	4	Locknut, 3/8-16 Center	
15	366424	1	Clamp, Fuel Tank Breather Hose	
16	123015	1	Charge Filter	
	2811255	1	• Filter Element	
	556417	1	• Head, Filter	
	556419	1	• Switch, Charge Filter Service	REFERENCE SW14, See 60.1
17	400258	4	Screw, 3/8-16 x 3/4” Hex Head	
18	3008126	1	Bracket, Recovery Bottle	
19	400192	2	Screw, 5/16-18 x 1-1/2” Hex Head	
20	446136	5	Lockwasher, 5/16 Heavy	
21	452006	2	Flat Washer, 5/16	
22	3007980	1	Bar, Spacer	
23	132381	1	Return Filter	
	555771	1	• Filter	
24	365974	1	Switch, Return Filter Service	REFERENCE SW12, See 60.1
25	5002444	1	Recovery Bottle	
26	N/S	1	• Hose, Radiator to Overflow	
27	400184	2	Screw, 5/16-18 x 3/4” Hex Head	
28	443106	2	Nut, 5/16-18 Hex	
29	363586	1	Screw, M8-1.25 x 20 mm Hex Head	
30	345666	1	Clamp, Overflow Hose	

> Change from previous revision

24.1 Hydraulic Tank

Serial No. All



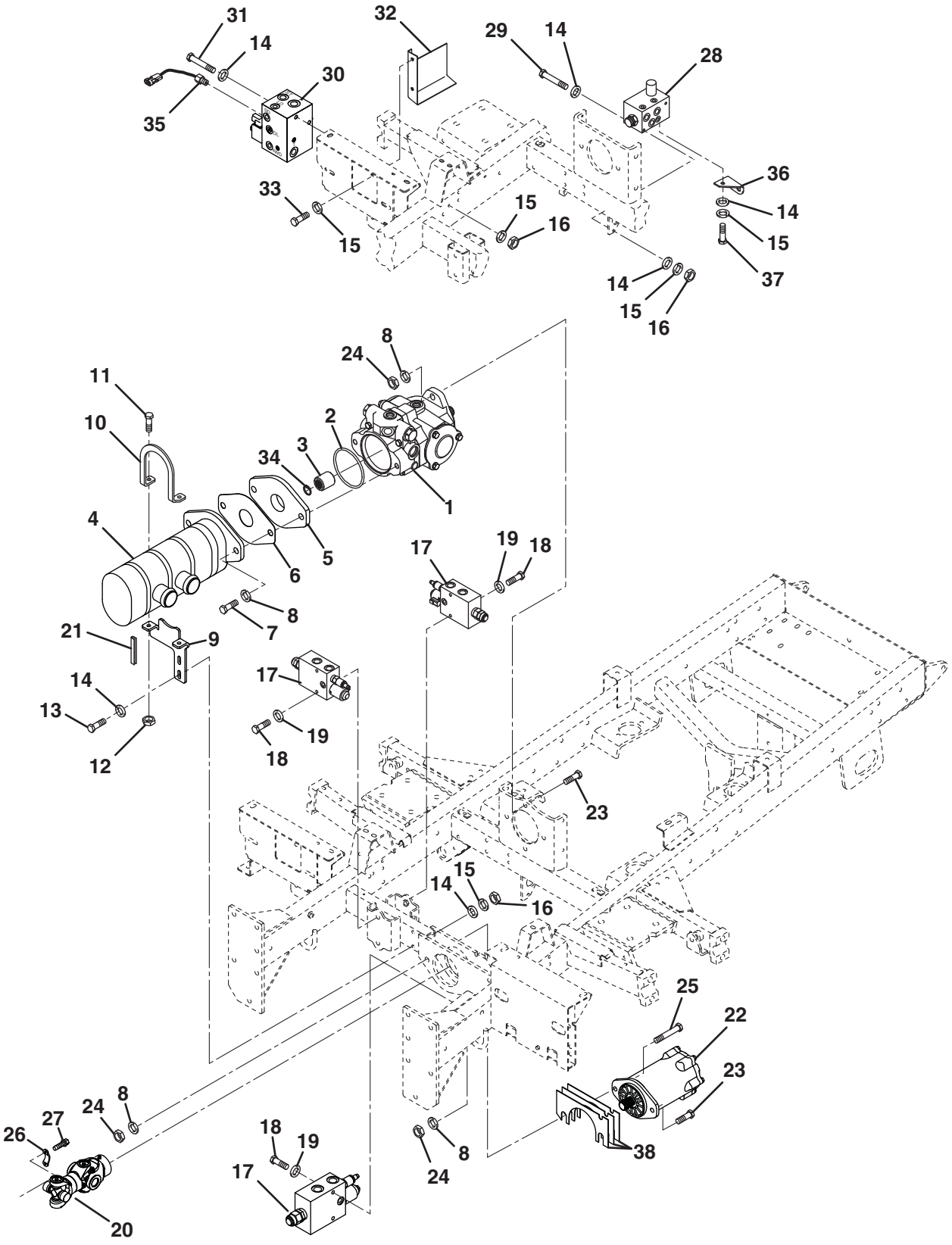
	Item	Part No.	Qty.	Description	Serial Numbers/Notes
	1	503612	1	Hydraulic Oil Tank	Includes Decals
	2	365919	1	• Decal, Oil Fill Caution	
	3	352487	1	• Decal, Hydraulic Fluid	
	4	367551	1	Switch, Hydraulic Oil Temperature	REFERENCE SW13, See 60.1
H	5	163915	1	Breather, Tank	*Important note located below*
H	6	557680	1	• Screen	
H	7	557681	2	• Gasket, Rubber	
H	8	402120	6	Screw, #10-24 x 5/8" Slotted	
	9	338941	1	Foam, Tank	10 Foot Roll
	10	558012	AR	Pad, Tank (Cut to Fit)	
	11	400268	2	Screw, 3/8-16 x 1-3/4" Hex Head	
	12	453011	2	Flat WAsher, 3/8	
	13	3001409	2	Strap, Oil Tank	
	14	444762	2	Locknut, 3/8-16 Center	
	15	400264	2	Screw, 3/8-16 x 1-1/4" Hex Head	
	16	446142	2	Lockwasher, 3/8 Heavy	
	17	443110	2	Nut, 3/8-16 Hex	
	18	365959	1	Strainer, 100 Mesh Screen	
		2812075	1	• O-Ring	
	19	69051-04	1	Plug, Pipe	

H IMPORTANT: *Discard the six #10-32 x 1/2" self threading screws included with Tank Breather Assembly. Using self threading screws will cause damage to hydraulic tank. Use #10-24 x 5/8" Slotted Head screws (Item 8) to secure breather to tank.*

> Change from previous revision

25.1 Pumps and Control Valve

Serial No. All

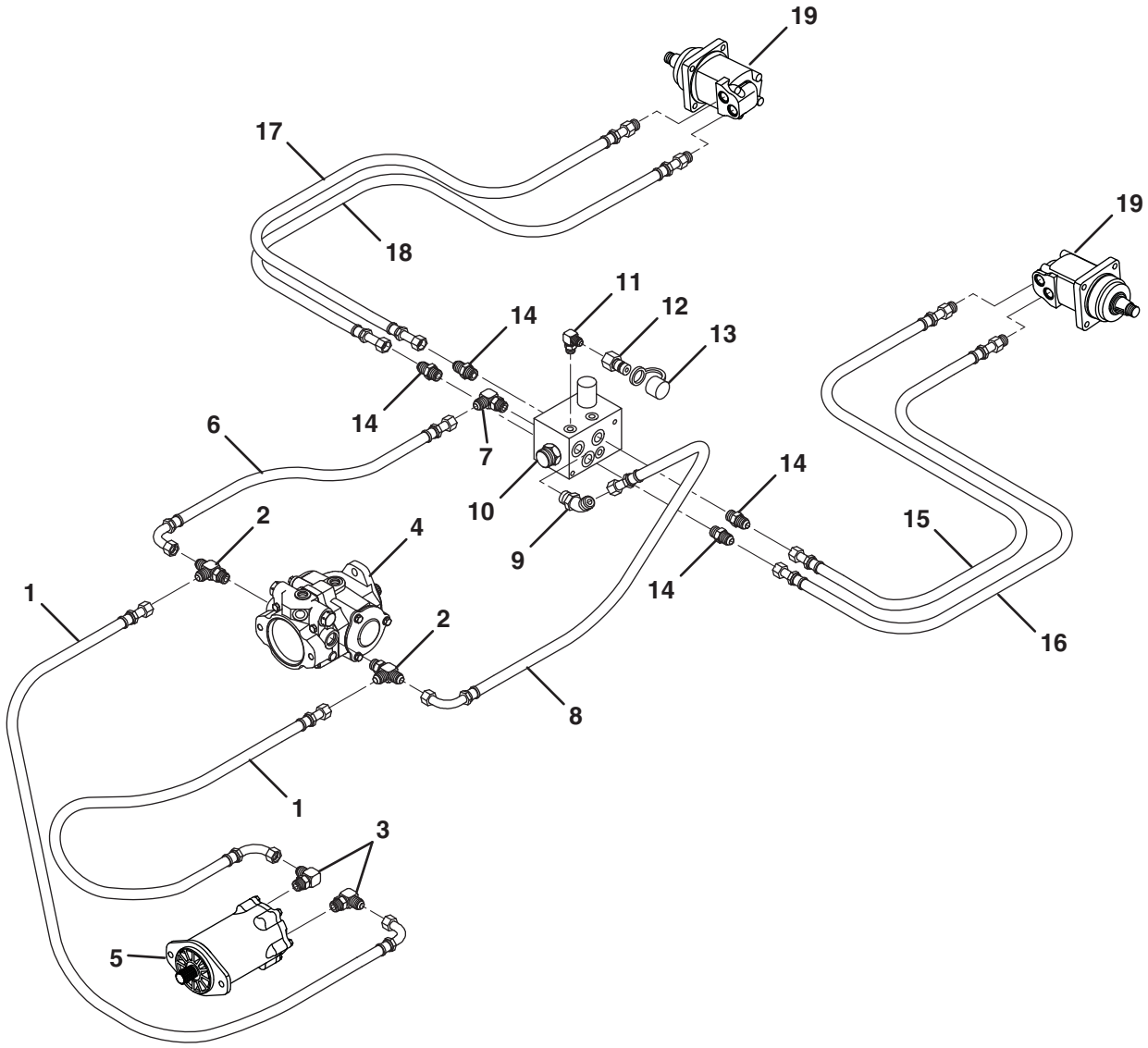


Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	4153880	1	Pump, Traction	See 55.1
2	557447	1	• O-Ring	
3	338938	1	• Pump Coupler	
4	4138342	1	Pump, 4 Section Gear	
	4138341	1	• Seal Kit	
5	557417	1	• Pump Adapter	
6	557418	1	• Gasket	
7	400412	2	Screw, 1/2-13 x 2” Hex Head	
8	446154	6	Lockwasher, 1/2 Heavy	
9	2721522	1	Support, Gear Pump	
10	2721523	1	Strap, Gear Pump	
11	400262	2	Screw, 3/8-16 x 1” Hex Head	
12	444762	2	Locknut, 3/8-16 Center	
13	400274	2	Screw, 3/8-16 x 2-1/2” Hex Head	
14	453011	12	Flat Washer, 3/8	
15	446142	10	Lockwasher, 3/8 Heavy	
16	443110	6	Nut, 3/8-16 Hex	
17	4135582	3	Valve, Deck Control	See 51.1
18	400278	6	Screw, 3/8-16 x 3-1/2” Hex Head	
19	452008	6	Flat Washer, 3/8	
20	4173300	1	U-Joint, Front Axle	
	4200220	2	• Cross and Bearing Kit	
	4200260	1	• Center Yoke	
	4200280	1	• Yoke	
21	557629	AR	Trim	10 Foot Roll, Cut to Length
22	4170780	1	Motor, Front Axle Drive	
	4197221	1	• Seal Kit	
23	400410	3	Screw, 1/2-13 x 1-3/4” Hex Head	
24	443118	4	Nut, 1/2-13 Hex	
25	400420	1	Screw, 1/2-13 x 3-1/2” Hex Head	
26	4178400	1	Strap, U-Joint	
27	4178401	1	Bolt, 1/4-20 x 3/4” U-Joint Strap	
28	4135555	1	Valve, 4WD Control	See 54.1
29	400476	2	Screw, 3/8-16 x 6” Hex Head	
30	4174300	1	Valve, Main Control	See 53.1
31	401225	2	Screw, 3/8-16 x 6-1/2” Hex Head	
32	1002475	1	Shield, Valve Guard	
33	400258	2	Screw, 3/8-16 x 3/4” Hex Head	
34	458103	1	Snap Ring	
35	132380	1	Switch, Charge Pressure	REFERENCE SW15, See 60.1
36	3001523.7	1	Plate, Bulkhead	
37	400260	2	Screw, 3/8-16 x 7/8” Hex Head	
38	4203520	AR	Shim, Motor	

> Change from previous revision

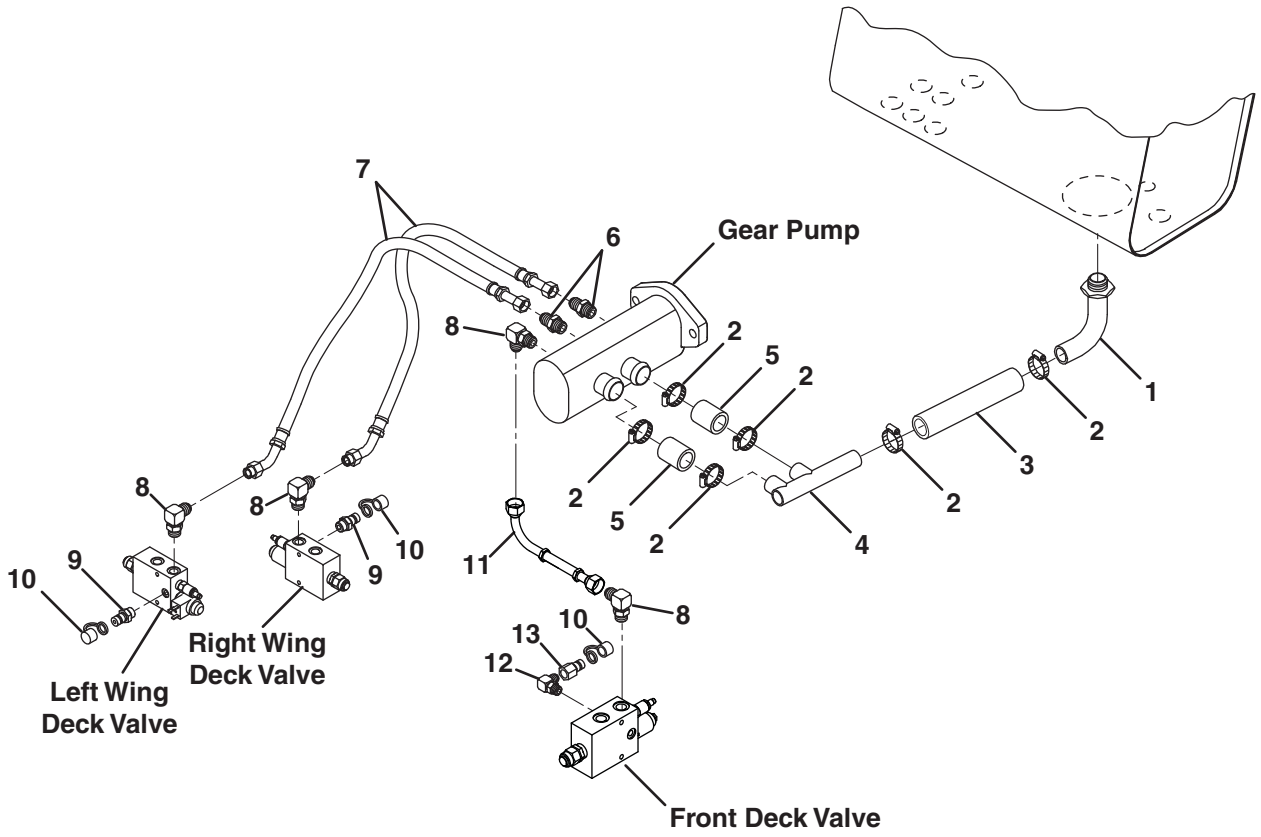
26.1 Traction Hydraulics

Serial No. All



Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	132417	2	Hose, Traction Pump to Axle Motor	
2	340269	2	Adapter, Tee	
3	340074	2	Adapter, 90°	
4	4153880	1	Traction Pump	See 25.1 for component mounting
5	4170780	1	Front Axle Motor	See 25.1 for component mounting
6	132446	1	Hose, Pump to 4WD Valve Port B	
7	340070	1	Adapter, 90°	
8	132484	1	Hose, Pump to 4WD Valve Port A	
9	340033	1	Adapter, 45°	
10	4135555	1	4WD Valve	See 25.1 for component mounting
11	340065	2	Adapter, 90°	
12	364945	2	Adapter, Diagnostic Port	
13	363030	2	Dust Cover	
14	339989	4	Adapter, Straight	
	1000843	1	Hose Assembly, Left Wheel Motor	
	1000700	1	• Hose, Motor Drain (Not Shown)	See 32.1
15	132448	1	• Hose, 4WD Valve to Motor	4WD Valve Port L2, Motor Port A
16	132448	1	• Hose, 4WD Valve to Motor	4WD Valve Port L1, Motor Port B
	1000843	1	Hose Assembly, Right Wheel Motor	
	1000700	1	• Hose, Motor Drain (Not Shown)	See 32.1
17	132448	1	• Hose, 4WD Valve to Motor	4WD Valve Port R2, Motor Port B
18	132448	1	• Hose, 4WD Valve to Motor	4WD Valve Port R1, Motor Port A
19	4178560	2	Rear Wheel Motor	See 14.1 for component mounting

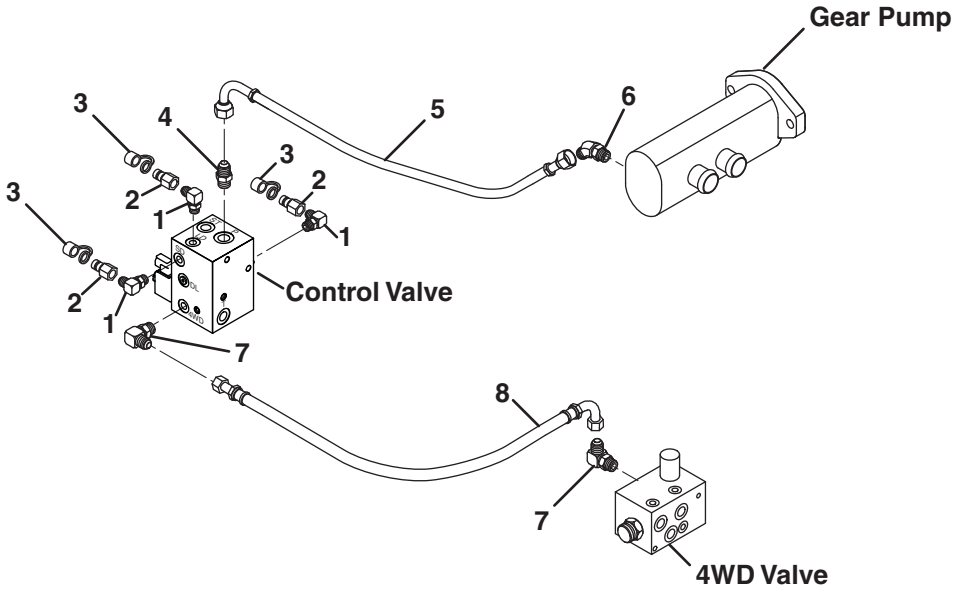
> Change from previous revision



Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	338946	1	Adapter, 90° Beaded	
	339903	1	• O-Ring	
2	326112	6	Clamp, Hose	
3	4148898	1	Hose, Pump Suction	
4	339113	1	Manifold, Pump Suction	
5	4148899	2	Hose, Pump Suction	
6	339989	2	Adapter, Straight	
7	1003104	2	Hose, Pump to Deck Valve P Port	
8	340070	4	Adapter, 90°	
9	365466	2	Adapter, Diagnostic Port	
10	363030	3	Dust Cover	
11	4179761	1	Hose, Front Deck Valve	
12	340065	1	Adapter, 90°	
13	364945	1	Adapter, Diagnostic Port	

> Change from previous revision

28.1 Control Valve Hydraulics

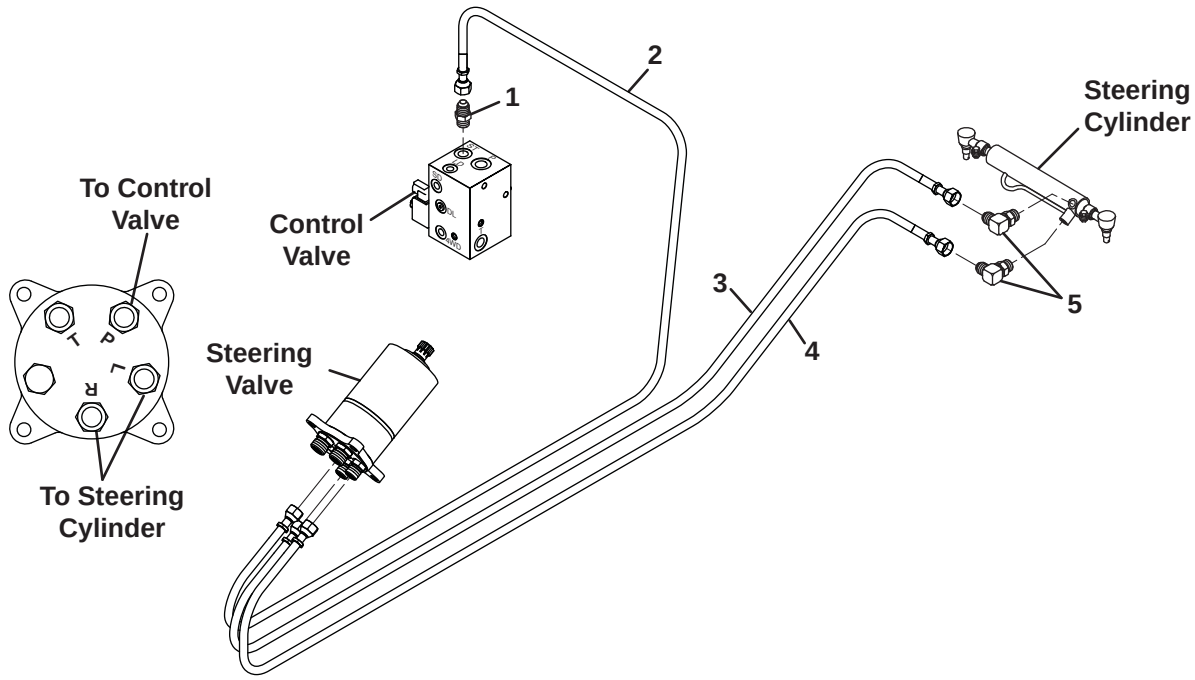


Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	340065	3	Adapter, 90°	
2	364945	3	Adapter, Diagnostic Port	
3	363030	3	Dust Cover	
4	339989	1	Adapter, Straight	
5	1003105	1	Hose, Pump to Control Valve	Control Valve Port P
6	340033	1	Adapter, 45°	
7	340061	1	Adapter, 90°	
8	4193020	1	Hose, Control Valve to 4WD Valve	
9	339979	1	Adapter, Straight	

> Change from previous revision

29.1 Steering Hydraulics

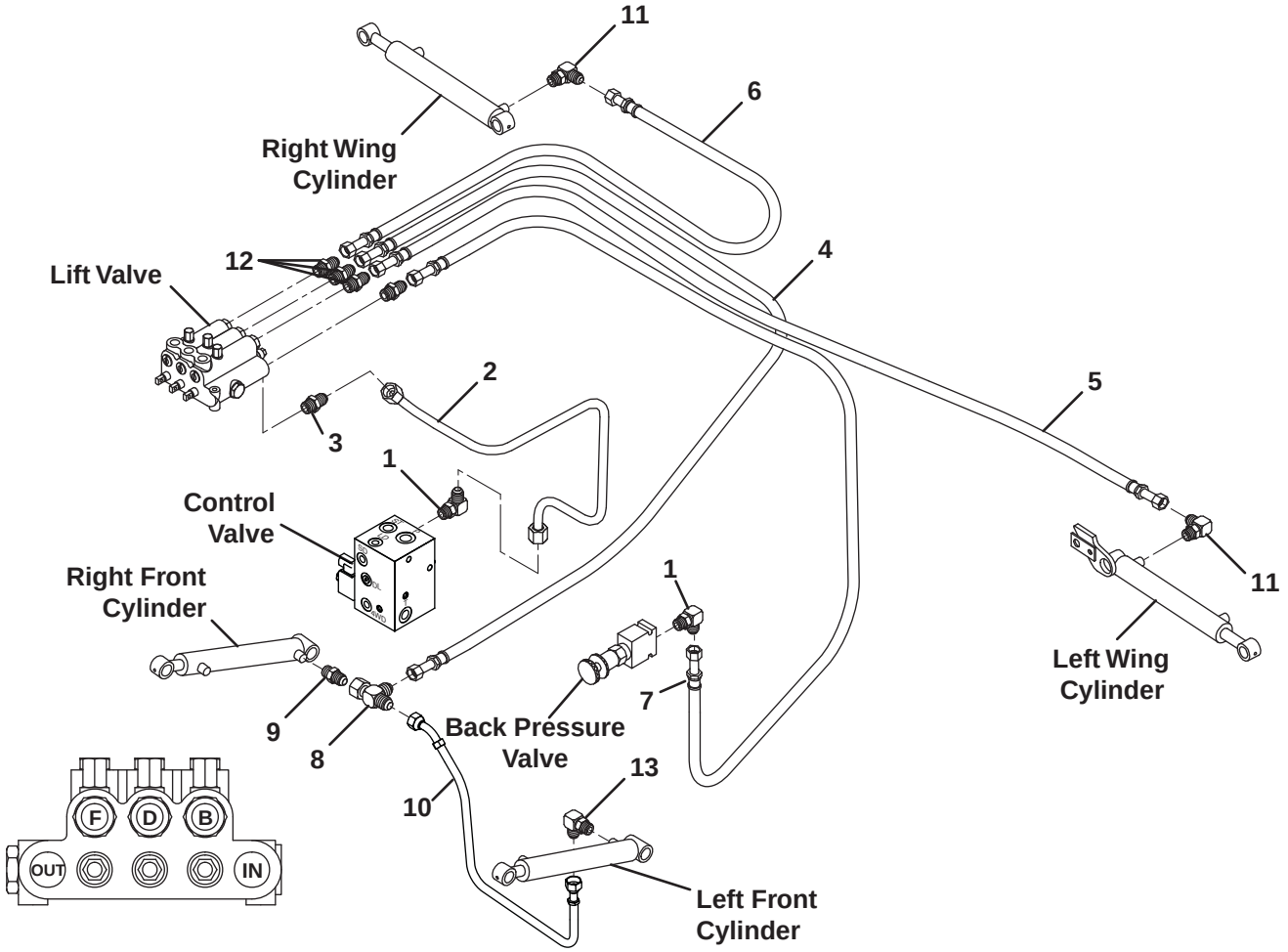
Serial No. All



Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	339984	1	Adapter, Straight	
2	4185401	1	Hose, Control Valve to Steering	Steering Valve Port P
3	4189080	1	Hose, Steering Valve to Cylinder	Steering Valve Port L, Base Port
4	4189080	1	Hose, Steering Cylinder to Valve	Steering Valve Port R, Rod Port
5	340061	2	Adapter, 90°	

> Change from previous revision

30.1 Lift Hydraulics

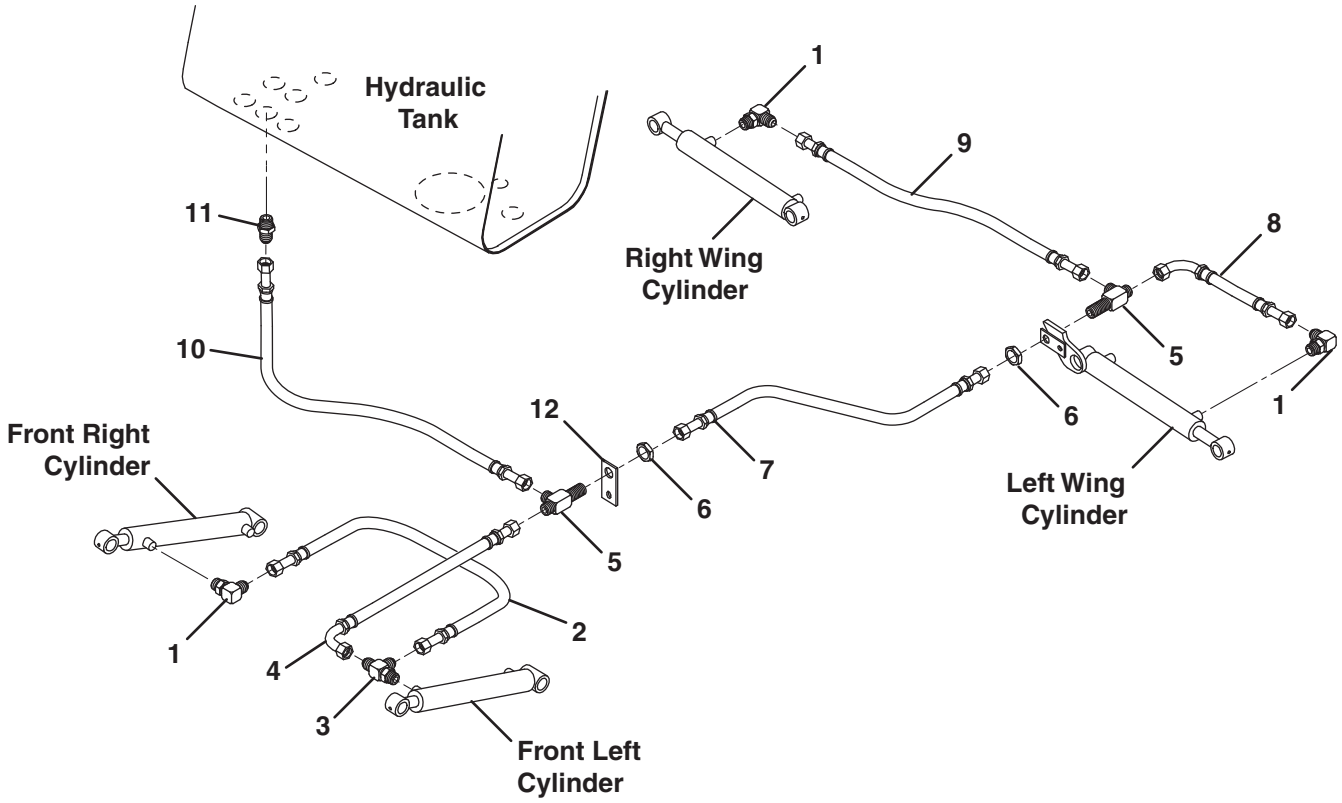


Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	340066	2	Adapter, 90°	
2	123222	1	Tube, Control Valve to Lift Valve	Lift Valve Port IN
3	339984	2	Adapter, Straight	
4	132571	1	Hose, Lift Valve to Front Cylinders	Lift Valve Port D
5	132571	1	Hose, Lift Valve to Left Cylinder	Lift Valve Port F
6	132573	1	Hose, Lift Valve to Right Cylinder	Lift Valve Port B
7	4188043	1	Hose, Lift to Backpressure Valve	Lift Valve Port OUT
8	340119	1	Adapter, Tee	
9	340003	1	Adapter, Straight	
10	4193301	1	Hose, Cylinder to Cylinder	
11	340078	2	Adapter, 90°	
12	339979	3	Adapter, Straight	
13	340088	1	Adapter, 90°	

> Change from previous revision

31.1 Lift Return Hydraulics

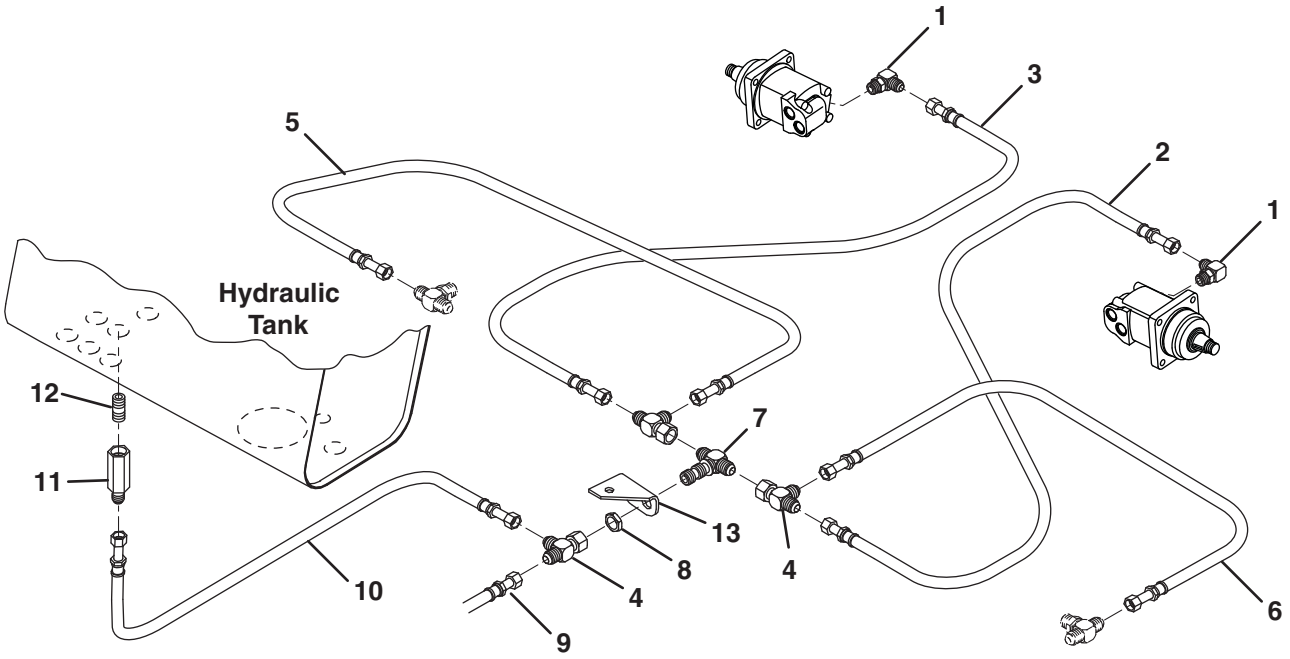
Serial No. All



Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	340061	3	Adapter, 90°	
2	1003595	1	Hose, Cylinder to Cylinder	
3	340263	1	Adapter, Tee	
4	4197560	1	Hose, Front Cylinder to Bulkhead	
5	340215	2	Adapter, Bulkhead Tee	
6	339961	2	• Nut, Bulkhead	
7	4193300	1	Hose, Tee to Tee	
8	132569	1	Hose, Left Cylinder to Bulkhead	
9	132568	1	Hose, Right Cylinder to Bulkhead	
10	132583	1	Hose, Tee to Tank	
11	351124	1	Adapter, Straight	
12	366437.7	1	Bracket, Bulkhead	See 43.1

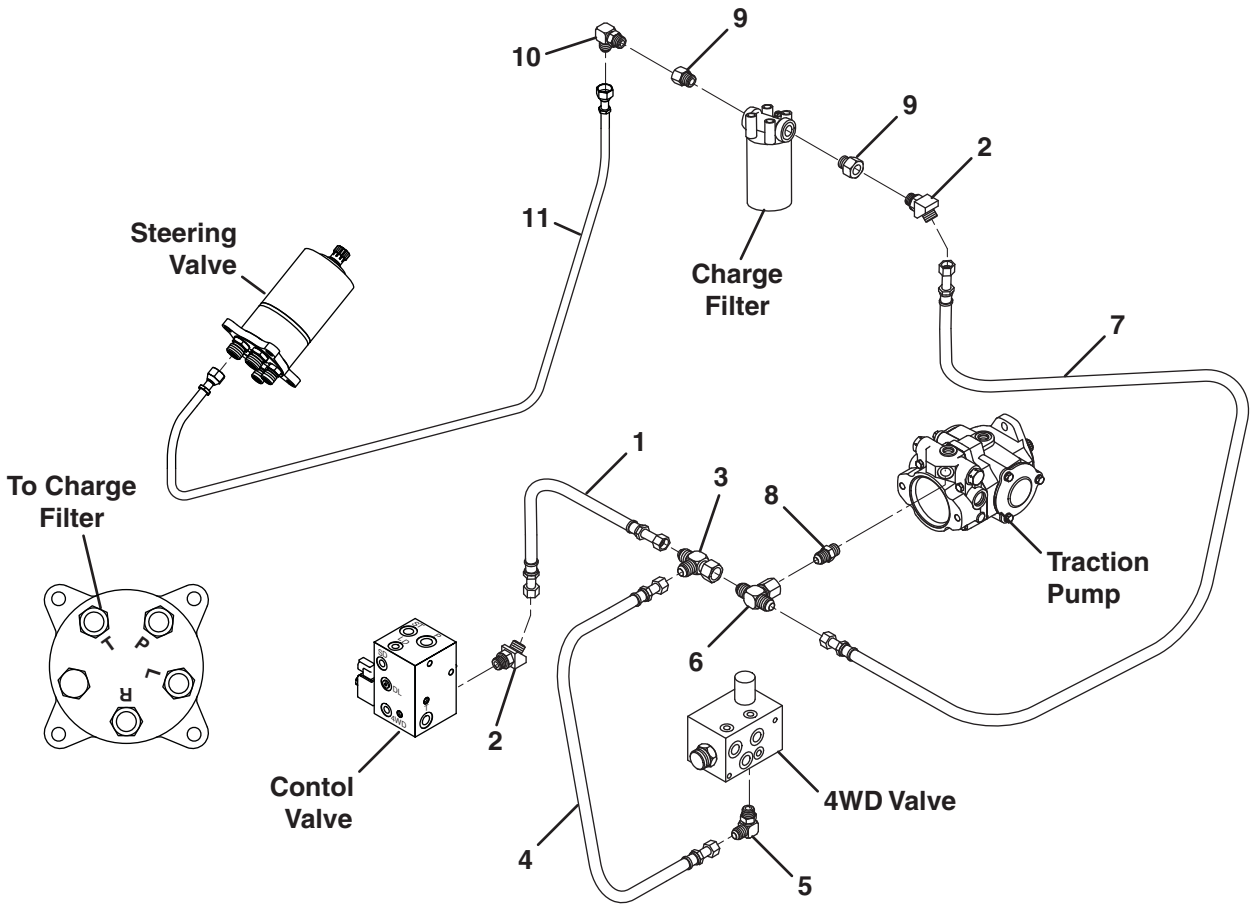
> Change from previous revision

32.1 Motor Return Hydraulics



Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	340055	2	Adapter, 90°	
2	1000770	1	Hose, Left Wheel Motor Drain	See 25.1
3	1000770	1	Hose, Right Wheel Motor Drain	See 25.1
4	359186	3	Adapter, Tee	
5	1003138	1	Hose, Right Wing Deck Drain	See 38.1
6	1003138	1	Hose, Left Wing Deck Drain	See 37.1
7	360566	1	Adapter, Bulkhead Tee	
8	339960	1	• Nut, Bulkhead	
9	4192360	1	Front Deck Motor Drain Hose	See 36.1
10	132561	1	Hose, Tee to Tank	
11	365966	1	Valve, Check	
12	324943	1	Nipple, Pipe	
13	3001523.7	1	Plate, Bulkhead	See 25.1

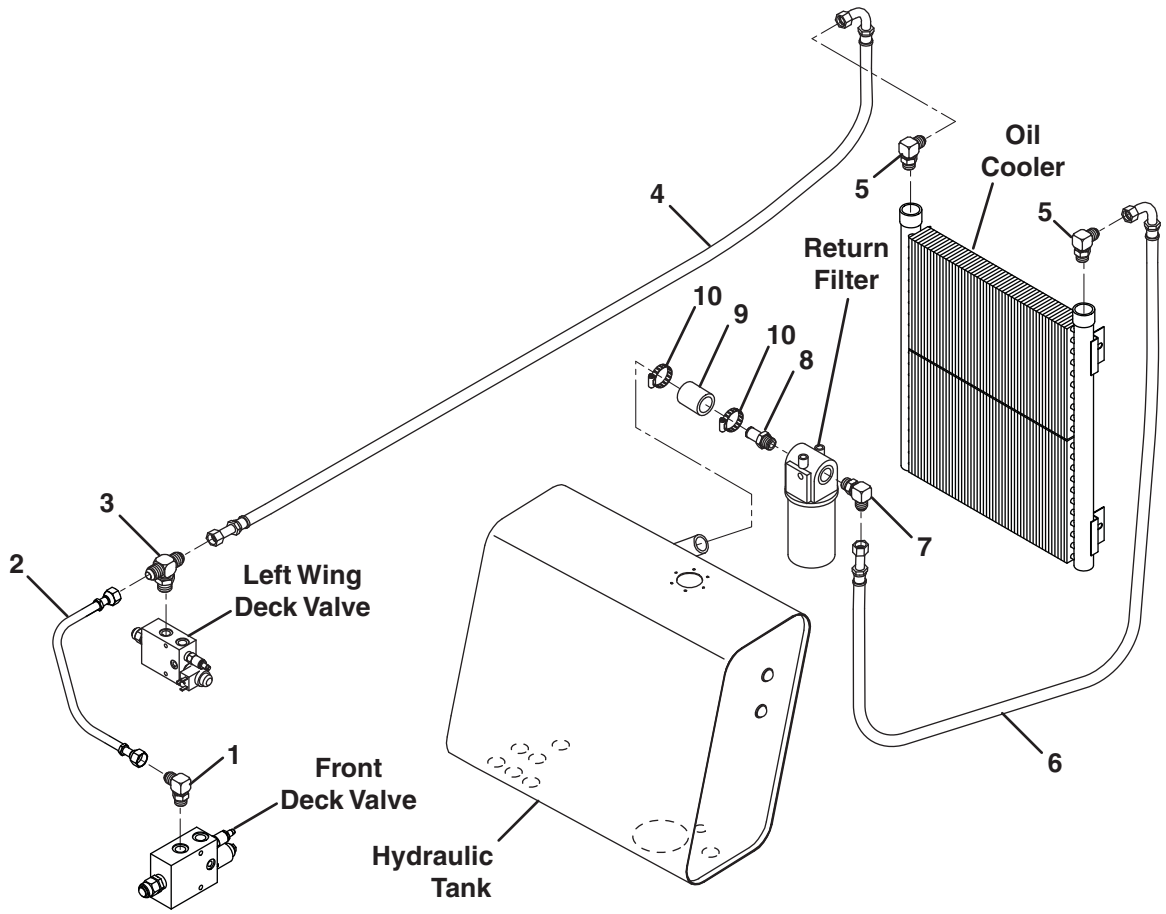
> Change from previous revision



Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	132540	1	Hose, Control Valve to Tee	Control Valve Port F
2	340029	2	Adapter, 45°	
3	340120	1	Adapter, Tee	
4	132864	1	Hose, 4WD Valve to Tee	4WD Valve Port C
5	340061	1	Adapter, 90°	
6	340144	1	Adapter, Tee	
7	132486	1	Hose, Tee to Charge Filter	
8	339984	1	Adapter, Straight	
9	366430	2	Reducer	
10	340066	1	Adapter, 90°	
11	4197741	1	Hose, Steering Valve to Filter	Steering Valve Port T

> Change from previous revision

34.1 Oil Cooler Hydraulics

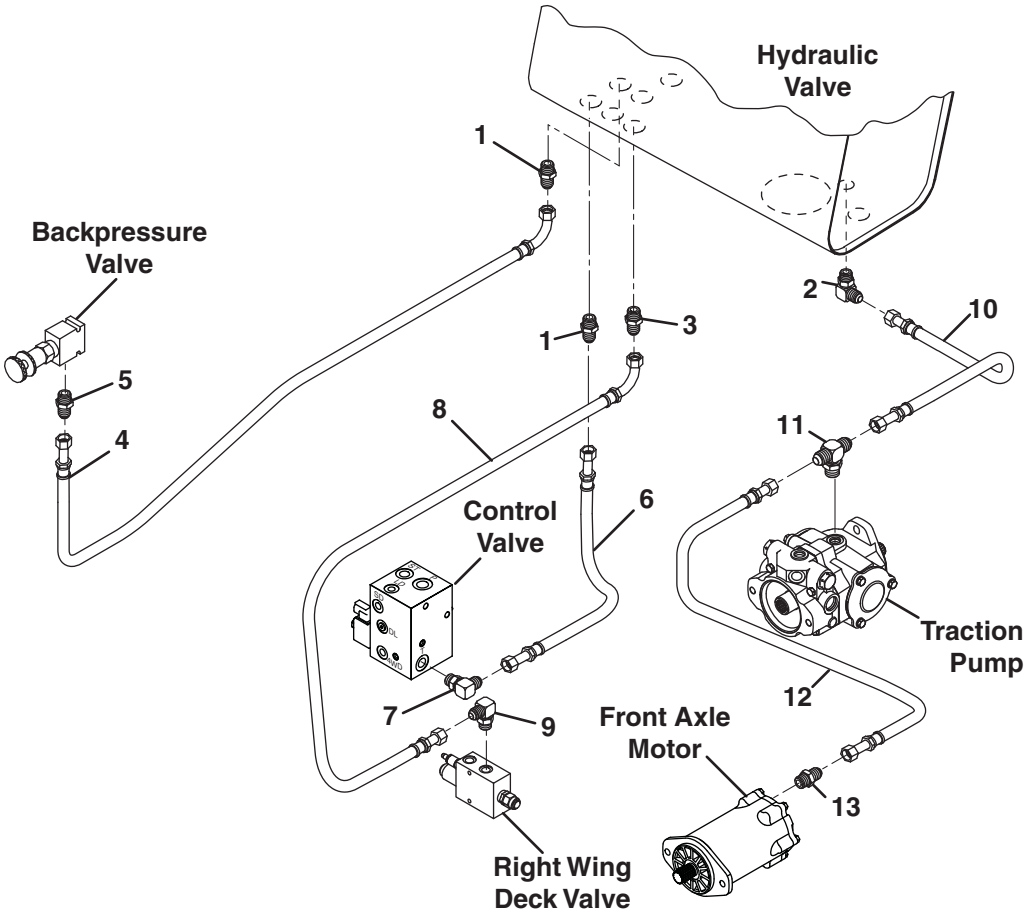


Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	340070	1	Adapter, 90°	
2	4192440	1	Hose, Front to Left Wing Deck Valve	
3	2720559	1	Adapter, Tee	
4	132441	1	Hose, Left Valve to Oil Cooler	
5	340077	2	Adapter, 90°	
6	1003705	1	Hose, Oil Cooler to Return Filter	
7	340089	1	Adapter, 90°	
8	163917	1	Adapter, Beaded	
9	4148897	1	Hose, Return Filter to Tank	
10	326112	2	Clamp, Hose	

> Change from previous revision

35.1 Return Hydraulics

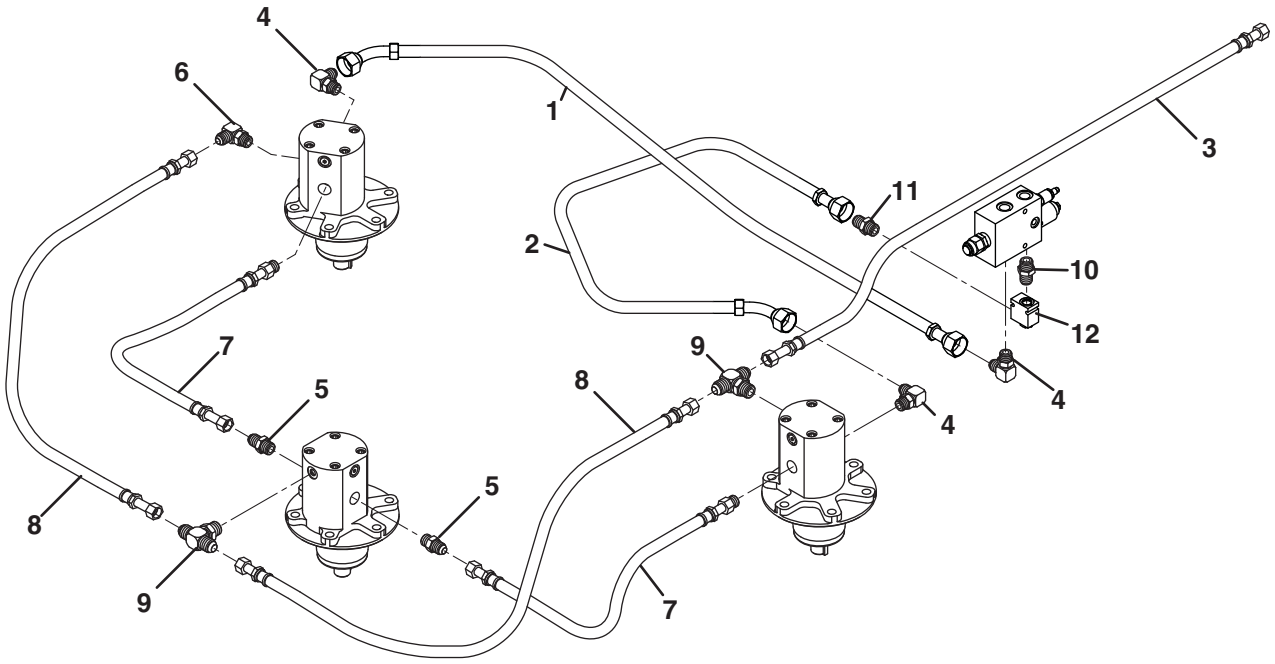
Serial No. All
Serial No. All



Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	351124	2	Adapter, Straight	
2	358949	1	Adapter, 90°	
3	357613	1	Adapter, Straight	
4	4188620	1	Hose, Backpressure Valve to Tank	
5	351108	1	Adapter, Straight	
6	132579	1	Hose, Control Valve to Tank	
7	340066	1	Adapter, 90°	
8	132580	1	Hose, Right Deck Valve to Tank	
9	354065	1	Adapter, 90°	
10	4173221	1	Hose, Traction Pump to Tank	
11	4173200	1	Adapter, Tee	
12	4173220	1	Hose, Axle Motor to Traction Pump	
13	351109	1	Adapter, Straight	

> Change from previous revision

36.1 Front Deck Hydraulics

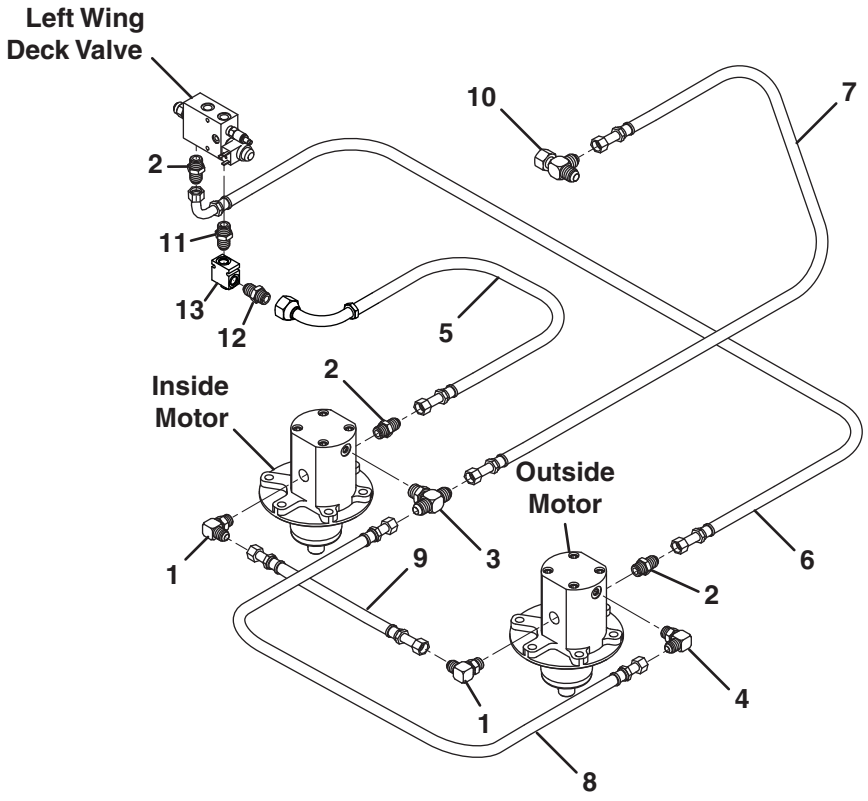


Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	1003584	1	Hose, Motor to Front Valve	Front Deck Valve Port B
	4192362	1	Front Deck Hose Assembly	
2	1003584	1	• Hose, Front Valve to Motor	Front Deck Valve Port A
3	4192360	1	• Hose, Front Deck to Bulkhead	
4	340070	4	Adapter, 90°	
5	339989	2	Adapter, Straight	
6	362288	1	Adapter, 90°	
	132591	2	Motor Hose Assembly	
7	132562	1	• Hose, Motor Outlet to Motor Inlet	
8	132563	1	• Hose, Motor Drain	
9	366445	2	Adapter, Tee	
10	4202340	1	Adapter, 10-8 Reducer Union	
11	339988	1	Adapter, Straight	
12	4202120	1	Check Valve	
	4201921	1	• Body, Check Valve	
	4201920	1	• Cartridge, Check Valve	

> Change from previous revision

37.1 Left Wing Deck Hydraulics

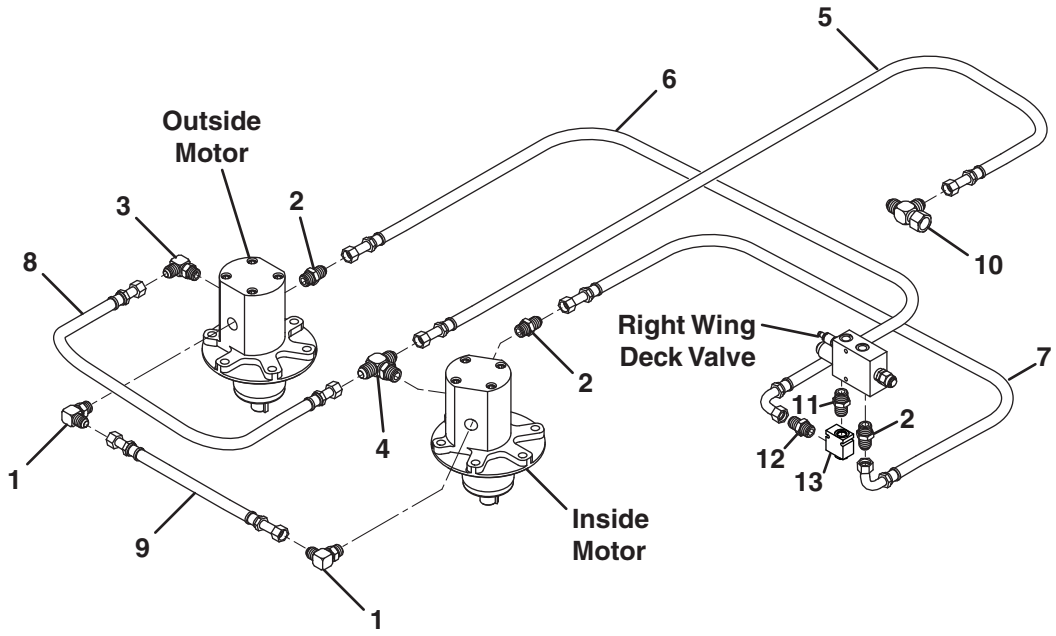
Serial No. All
Serial No. All



Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	340070	2	Adapter, 90°	
2	339989	4	Adapter, Straight	
3	366445	1	Adapter, Tee	
4	362288	1	Adapter, 90°	
	1003134	1	Left Wing Deck Hose Assembly	
5	132575	1	• Hose, Left Valve to Motor	Left Wing Deck Valve Port A
6	132576	1	• Hose, Motor to Left Valve	Left Wing Deck Valve Port B
7	1003138	1	• Hose, Left Deck Drain	
	132594	1	Motor Hose Assembly	
8	132595	1	• Hose, Motor Drain	
9	132596	2	• Hose, Motor Outlet to Motor Inlet	
10	359186	1	Adapter, Tee	See 32.1
11	4202340	1	Adapter, 10-8 Reducer Union	
12	339988	1	Adapter, Straight	
13	4202120	1	Check Valve	
	4201921	1	• Body, Check Valve	
	4201920	1	• Cartridge, Check Valve	

> Change from previous revision

38.1 Right Wing Deck Hydraulics

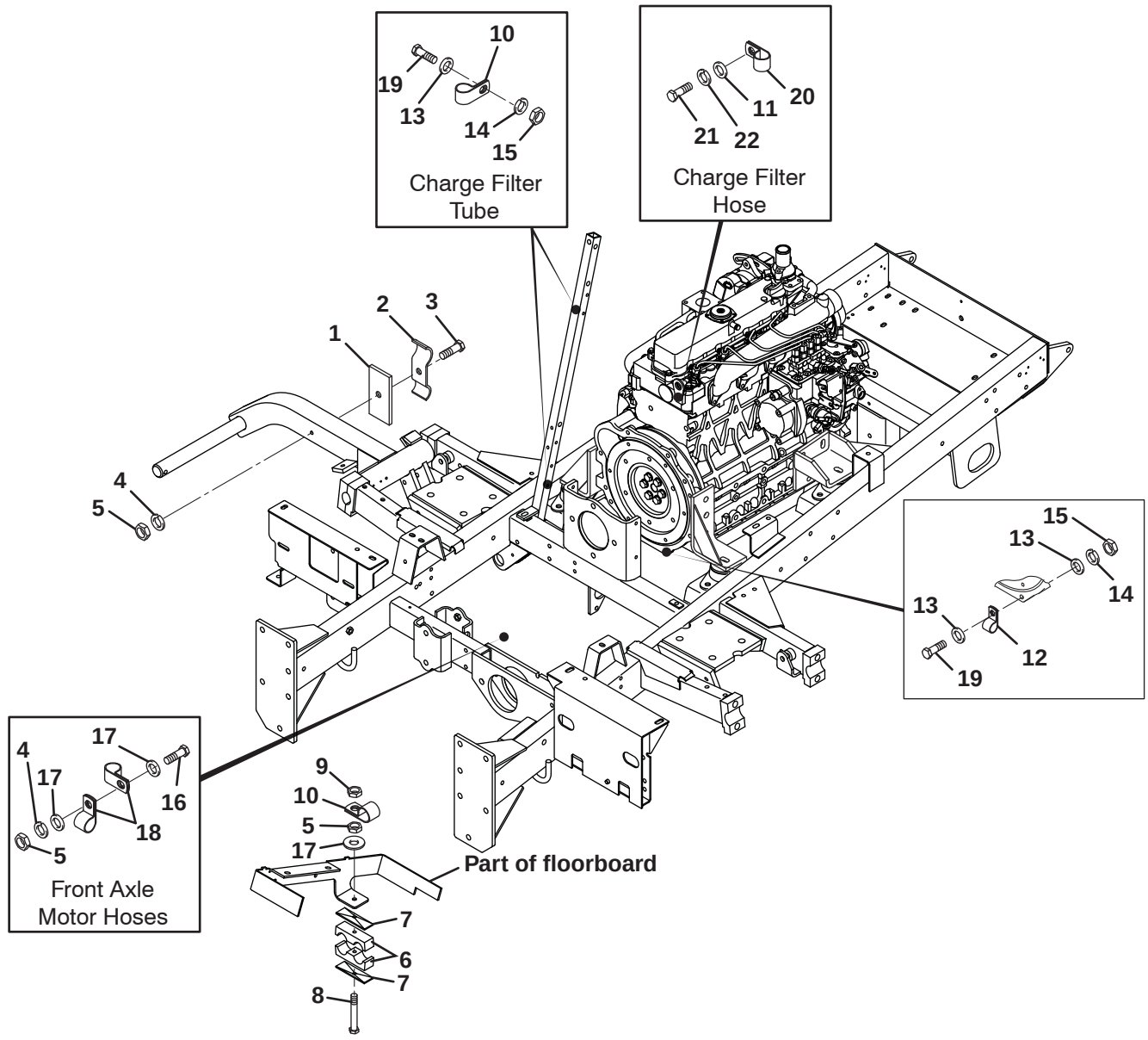


Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	340070	2	Adapter, 90°	
2	339989	4	Adapter, Straight	
3	362288	1	Adapter, 90°	
4	366445	1	Adapter, Tee	
	1003133	1	Right Wing Deck Hose Assembly	
5	1003138	1	• Hose, Right Wing Deck Drain	
6	1003137	1	• Hose, Right Valve to Motor	Right Wing Deck Valve Port A
7	1003136	1	• Hose, Motor to Right Valve	Right Wing Deck Valve Port B
	132594	1	Motor Hose Assembly	
8	132596	1	• Hose, Motor Drain	
9	132595	1	• Hose, Motor Outlet to Motor Inlet	
10	359186	1	Adapter, Tee	See 32.1
11	4202340	1	Adapter, 10-8 Reducer Union	
12	339988	1	Adapter, Straight	
13	4202120	1	Check Valve	
	4201921	1	• Body, Check Valve	
	4201920	1	• Cartridge, Check Valve	

> Change from previous revision

39.1 Hydraulic Clamping

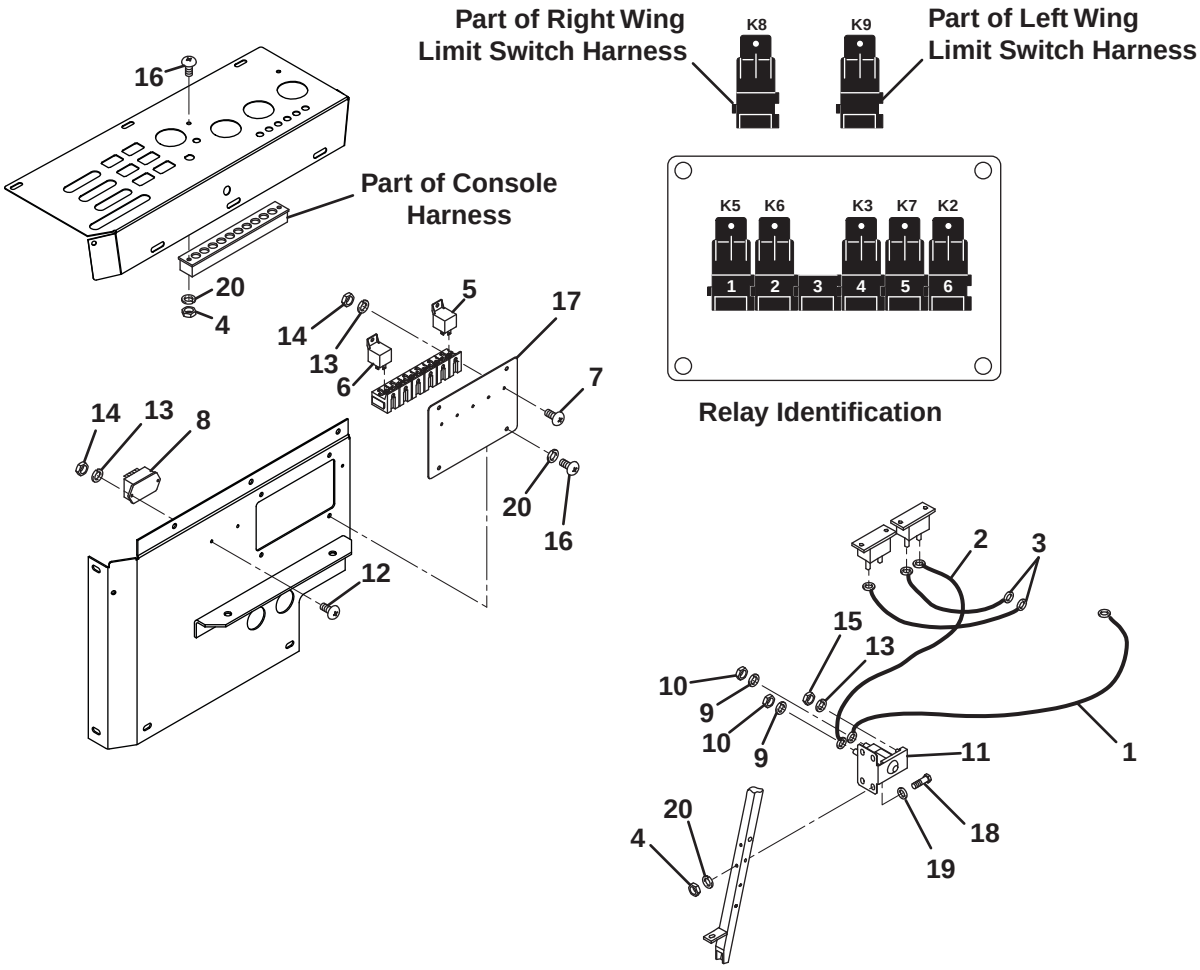
Serial No. All



Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	366607.7	2	Spacer, Hose	
2	359860	2	Clamp, 2 Hose	
3	400204	2	Screw, 5/16-18 x 3-1/2”	
4	446136	1	Lockwasher, 5/16 Heavy	
5	443106	2	Nut, 5/16-18 Hex	
6	3008793	2	Clamp, Hose	Front Deck Motor Hoses
7	3008792	2	Spacer, Plate	
8	400210	1	Screw, 5/16-18 x 5” Hex Head	
9	444718	1	Locknut, 5/16-18 Center	
10	345666	2	Clamp, Hose	
11	550380	1	Washer, Plain	Included with Engine
12	361064	1	Clamp	
13	452004	5	Flat Washer, 1/4	
14	446130	3	Lockwasher, 1/4 Heavy	
15	443102	3	Nut, 1/4-20 Hex	
16	400188	1	Screw, 5/16-18 x 1” Hex Head	
17	452006	1	Flat Washer, 5/16	
18	364190	3	Clamp	
19	400116	3	Screw, 1/4-20 x 1-1/2” Hex Head	
20	354080	1	Clamp, Hose	
21	550376	1	Bolt	Included with Engine
22	550409	1	Washer, Spring	Included with Engine
	473142	2	Cable Tie	Front Cylinder Return Hose (1) Deck Valve Hose to Tube (1)
	473144	1	Cable Tie, 5/16 x 16” (Not Shown)	Steering Hoses to Console Support Front Lift Cylinder Hoses (2)
	473137	5	Cable Tie, 5/16 x 9” (Not Shown)	Front Deck Motor Hoses (1) Control Valve Hoses (1) Wing Deck Motor Hoses (1)

> Change from previous revision

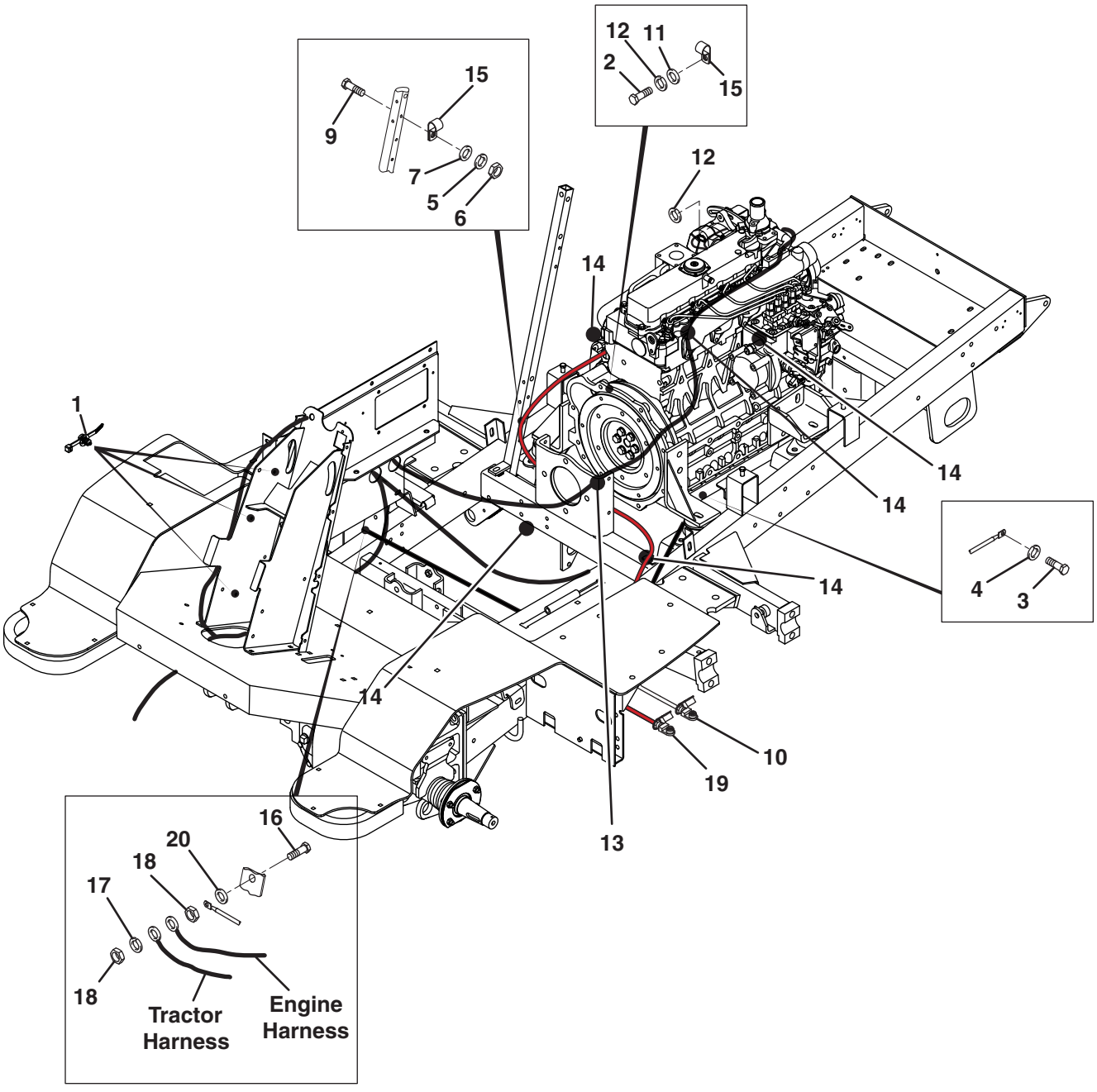
40.1 Electrical Components



Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	365962	1	Wire, Solenoid to Glow Plug	
2	163918	1	Wire, Circuit Breaker to Solenoid	
3	365711	2	Wire, Starter to Circuit Breaker	
4	443102	4	Nut, 1/4-20 Hex	
5	4193880	1	Relay SPDT	REFERENCE K5, See 60.1
6	365963	6	Relay, SPST	REFERENCE K2, K3, K6, K7, K8, K9, See 60.1
7	403908	2	Screw, #10-24 x 3/8" Truss Head	
8	3003036	1	Relay, Seat Time Delay	REFERENCE K4, See 60.1
9	446136	2	Lockwasher, 5/16 Heavy	
10	443808	2	Nut, 5/16-24 Hex Jam	
11	131905	1	Solenoid, Glow Plug	REFERENCE K1, See 60.1
12	403910	2	Screw, #10-24 x 1/2" Truss Head	
13	446118	4	Lockwasher, #10	
14	444310	2	Nut, #10-24 Hex	
15	444312	2	Nut, #10-32 Hex	
16	403759	6	Screw, 1/4-20 x 5/8" Truss Head	
17	366308.6	1	Plate	
18	400118	2	Screw, 1/4-20 x 1-3/4" Hex Head	
19	453023	2	Flat Washer, 1/4	
20	446130	8	Lockwasher, 1/4 Heavy	

> Change from previous revision

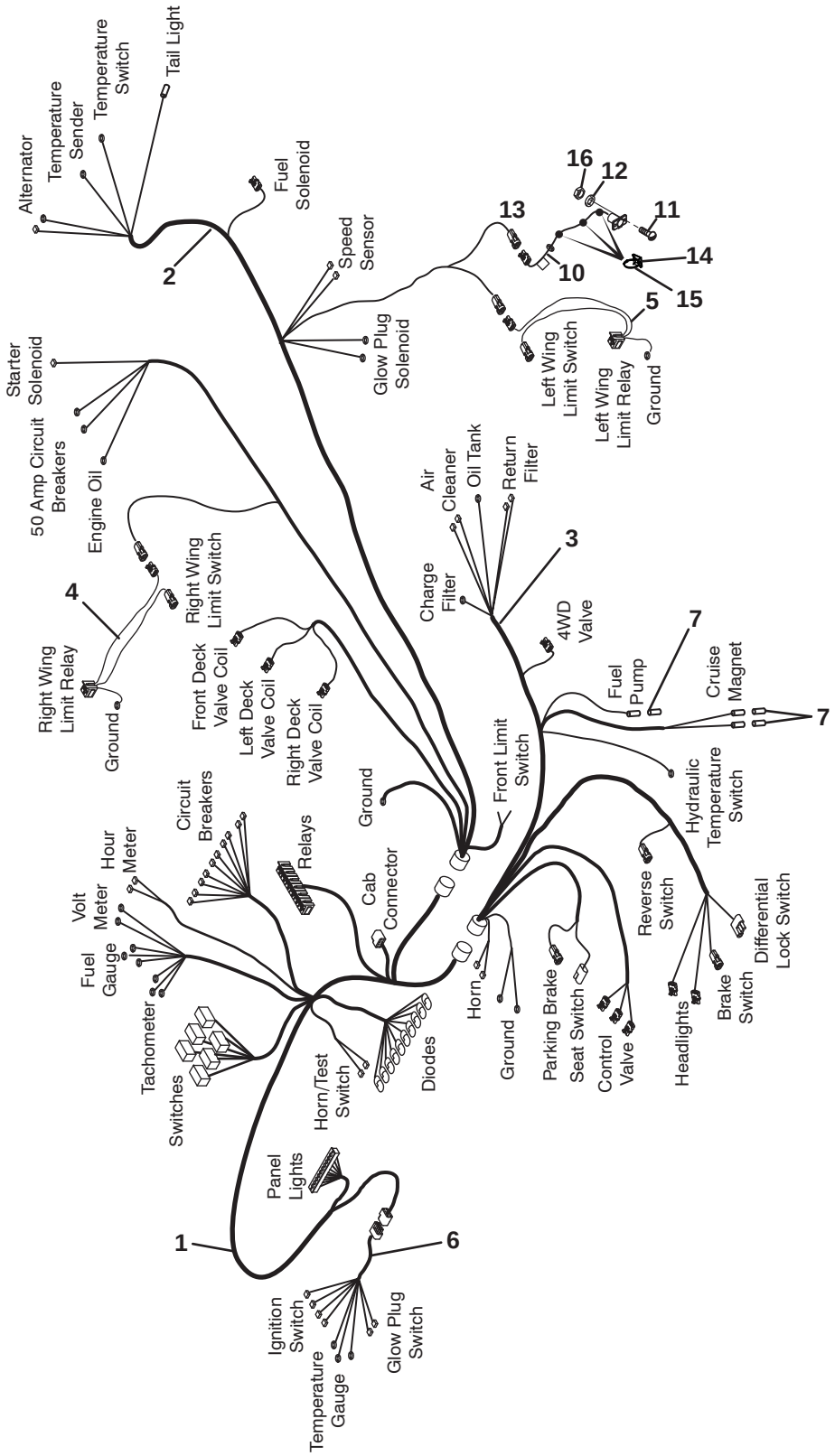
41.1 Electrical Routing



Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	4167640	3	Cable Tie, Fir Tree	
2	362263	1	Screw, M10-1.25 x 25 mm	
3	365980	1	Screw, M12-1.25 x 20 mm	
4	446154	1	Lockwasher, 1/2 Heavy	
5	446130	1	Lockwasher, 1/4 Heavy	
6	443102	1	Nut, 1/4-20 Hex	
7	453023	1	Flat Washer, 1/4	
8	361064	1	Clamp	
9	400120	1	Screw, 1/4-20 x 2”	
10	2720726	1	Negative Battery Cable	
11	453011	1	Flat Washer, 3/8	
12	446148	1	Lockwasher, 7/16	
13	473144	2	Cable Tie	
14	473137	4	Cable Tie	
15	345671	2	Clamp	
16	400190	1	Screw, 5/16-18 x 1-1/4” Hex Head	
17	446136	1	Lockwasher, 5/16 Heavy	
18	443106	1	Nut, 5/16-18 Hex	
19	1002397	1	Positive Battery Cable	
20	452006	1	Flat Washer, 5/16	

> Change from previous revision

42.1 Harness

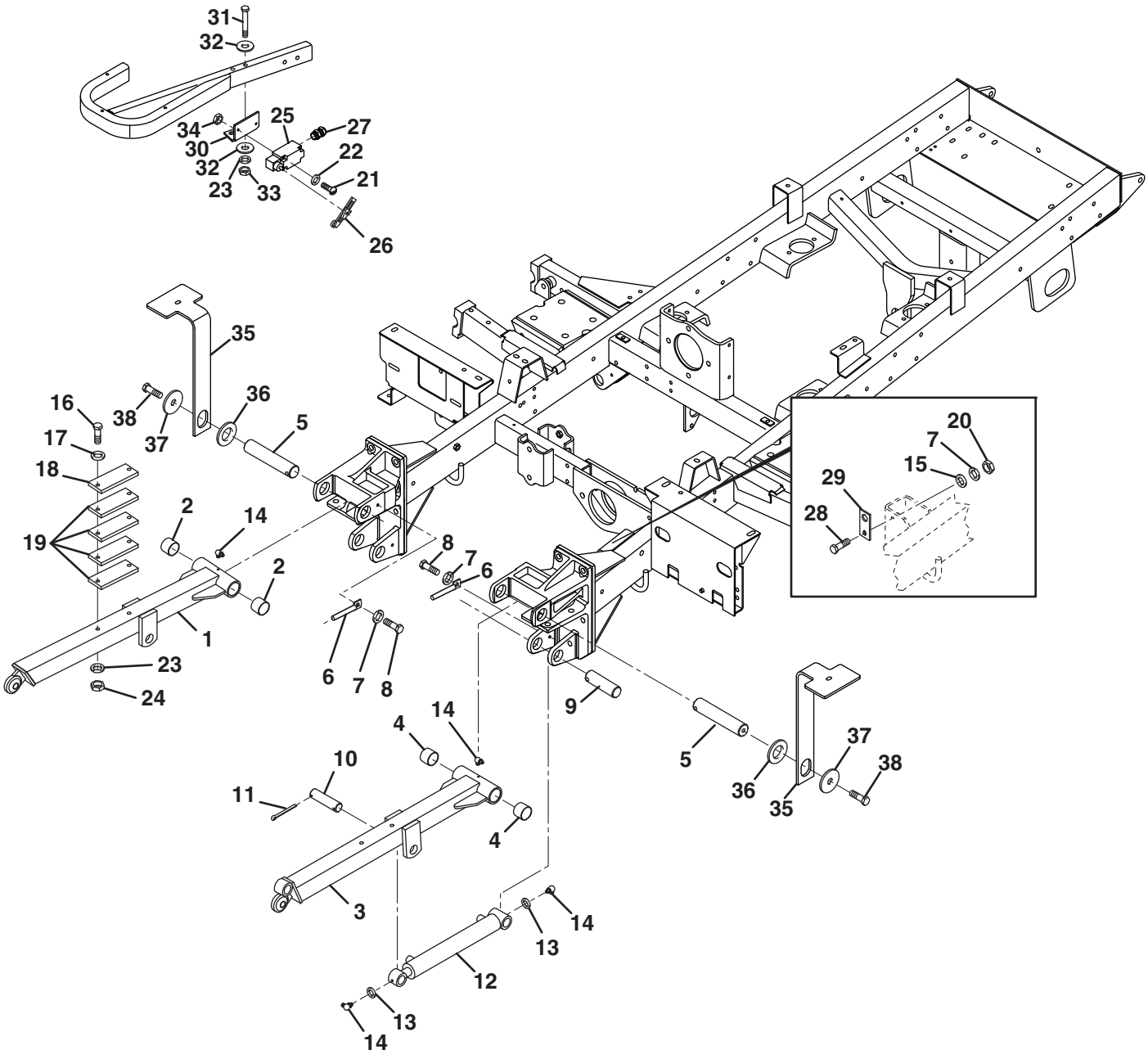

Alternator
Temperature Sender
Temperature Switch
Tail Light
Fuel Solenoid
Speed Sensor
Glow Plug Solenoid
Starter Solenoid
50 Amp Circuit Breakers
Engine Oil
Right Wing Limit Switch
Right Wing Limit Relay
Ground
Front Deck Valve Coil
Left Deck Valve Coil
Right Deck Valve Coil
Air Cleaner
Oil Tank
Return Filter
Charge Filter
4WD Valve
Fuel Pump
Cruise Magnet
Front Limit Switch
Left Wing Limit Switch
Left Wing Limit Relay
Ground
Hydraulic Temperature Switch
Reverse Switch
Differential Lock Switch
Brake Switch
Headlights
Horn
Ground
Parking Brake
Seat Switch
Control Valve
Ground
Cab Connector
Relays
Circuit Breakers
Hour Meter
Volt Meter
Fuel Gauge
Tachometer
Switches
Horn/Test Switch
Diodes
Panel Lights
Ignition Switch
Glow Plug Switch
Temperature Gauge
1
2
3
4
5
6
7
10
11
12
13
14
15
16

Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	4195440	1	Wire Harness, Console	
	554492	2	• Lockwasher, Size 24	
	554493	2	• Panel Nut, Size 24	
	555845	10	• Light Bulb	
	555846	10	• Diode	
	555847	1	• Light Strip	
2	4170721	1	Wire Harness, Engine	
3	4172662	1	Wire Harness, Mower	
4	4155085	1	Wire Harness, Right Wing Limit	
5	4155085	1	Wire Harness, Left Wing Limit	
6	1001963	1	Wire Harness, Ignition	
7	473108	3	Insulated Bullet Connector	
	554748	2	Tube, Wire Protector (Not Shown)	Cruise Control Magnet Wires Front Lift Arm Limit Switch
8	473137	5	Tie, Nylon	Not Shown
9	473144	2	Tie, Nylon	Not Shown
10	4175664	1	Harness, 12V Accessory Plug	Routed inside Utility Box
	4131299	1	• Fuse Holder	
	836892	1	• Fuse, 10 Amp	REFERENCE F1, See 60.1
	N/S	1	• Accessory Plug	REFERENCE U3, See 60.1
11	402230	2	Screw, 1/4-20 x 1” Slotted Roound	
12	455066	2	Flat Washer, 1/4	
13	4194660	1	Grommet	
14	4200540	3	Adhesive Mount	Inside surface of utility box
15	320107	3	Tie Strap	
16	443102	2	Nut, 1/4-20 Hex	

> Change from previous revision

43.1 Front Lift Arms

Serial No. All



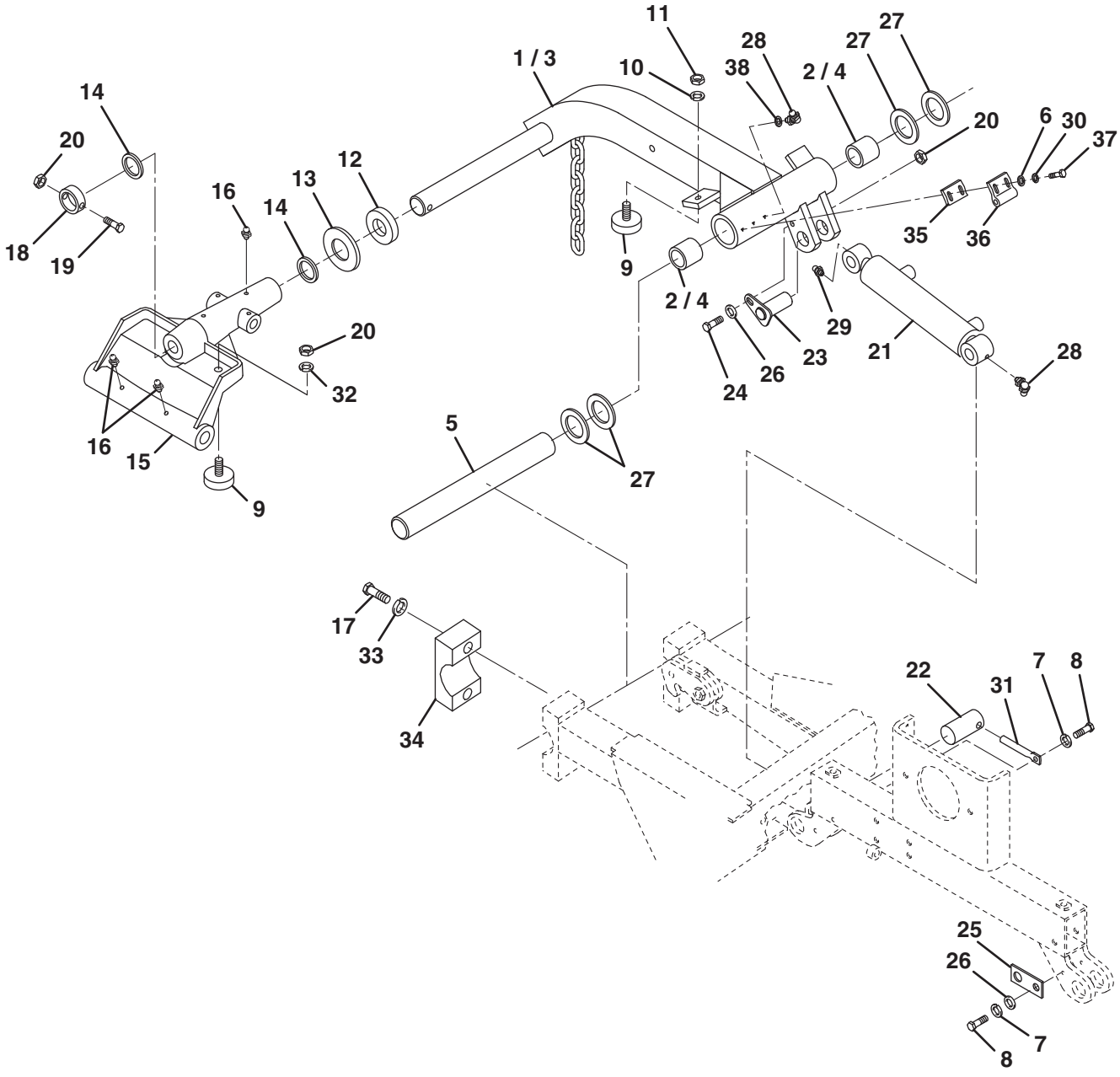
	Item	Part No.	Qty.	Description	Serial Numbers/Notes
	1	2720206	1	Right Front Lift Arm	
	2	342033	2	• Bushing	
	3	2720207	1	Left Front Lift Arm	
	4	342033	2	• Bushing	
	5	4184641	2	Shaft, Lift Arm Pivot	
	6	346091	4	Pin, Retaining	
	7	446136	5	Lockwasher, 5/16 Heavy	
	8	400184	4	Screw, 5/16-18 x 3/4” Hex Head	
	9	366045	2	Pin, Lift Cylinder	
	10	359549	2	Pin, Lift Cylinder	
	11	460052	4	Cotter Pin, 3/16 x 1-1/2”	
>	12	4138505	2	Front Arm Lift Cylinder	
>		4137138	1	• Seal Kit	
	13	453023	4	Flat Washer, 1/4	
	14	471221	6	Grease Fitting, 90°	
	15	452006	1	Flat Washer, 5/16	
	16	400280	4	Screw, 3/8-16 x 3-1/2” Hex Head	
	17	453011	4	Flat Washer, 3/8	
	18	366473	2	Bumper, Lift Arm	
	19	366610	AR	Shim, 0.26” Thick	Add or remove shims as required to level front deck. See Adjustment section for details.
	19	366611	AR	Shim, 0.1975” Thick	
	19	366612	AR	Shim, 0.135 Thick	
	19	366613	AR	Shim, 0.105 Thick	
	20	443106	1	Nut, 5/16-18 Hex	
	21	402132	2	Screw, #10-24 x 1-3/4” Slotted	
	22	446118	2	Lockwasher, #10 Medium	
	23	446142	6	Lockwasher, 3/8 Heavy	
	24	443110	4	Nut, 3/8-16 Hex	
	25	3001079	1	Switch, Front Limit	REFERENCE SW10, See 60.1
		5000183	1	• Basic Switch	
		5000184	1	• Operator Head	
	26	3001078	1	Actuator Arm	
	27	364694	1	Connector	
	28	400188	1	Screw, 5/16-18 x 1” Hex Head	
	29	366437.7	1	Bracket, Bulkhead	
	30	4198920	1	Bracket, Front Arm Sensor	
	31	400276	2	Screw, 3/8-16 x 3” Hex Head	
	32	452007	4	Flat Washer, 3/8	
	33	444762	2	Locknut, 3/8-16 Hex Center	
	34	444782	2	Locknut, #10-24 Hex Center	
	35	4184642	2	Support, Fender	
	36	362824	2	Spacer	
	37	4184640	2	Washer	
	38	400404	2	Screw, 1/2-13 x 1” Hex Head	

> Change from previous revision

44.1 Wing Lift Arms

Serial No. All

Right Wing Shown

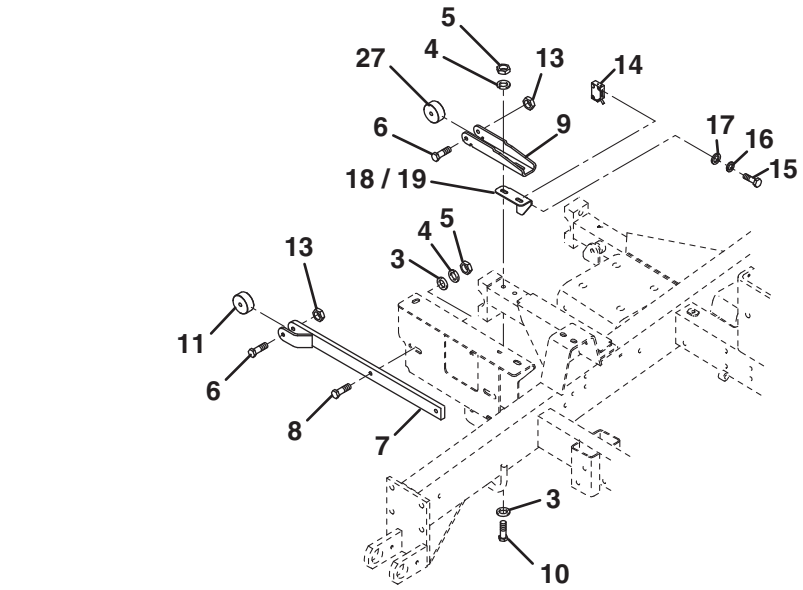


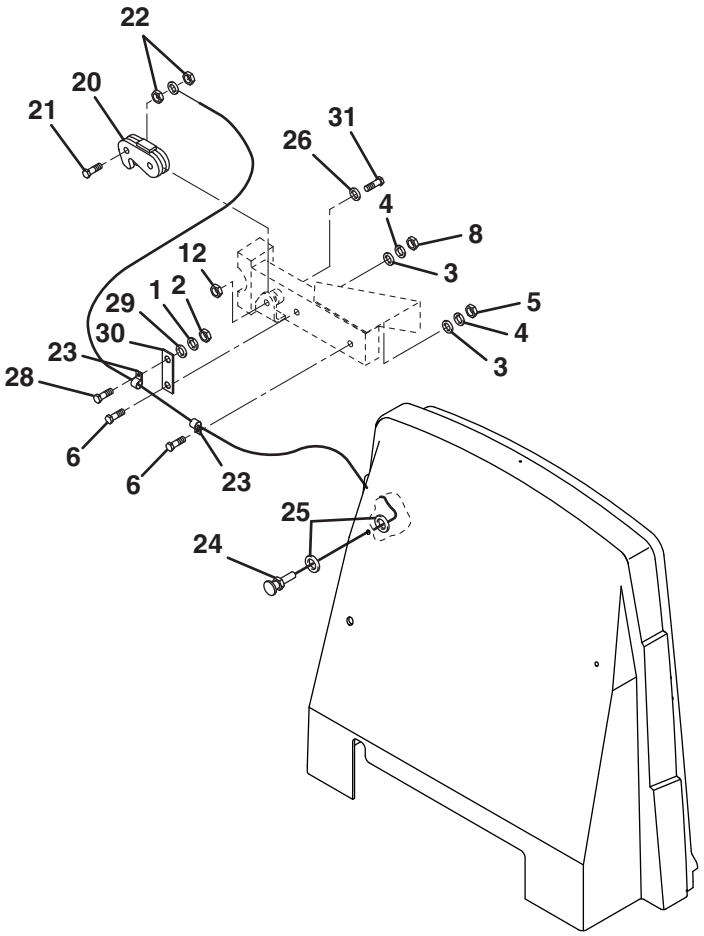
Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	2720295	1	Right Wing Arm	
2	2720298	2	• Bushing	
3	2720294	1	Left Wing Arm (Not Shown)	
4	2720298	2	• Bushing	
5	2248004	2	Shaft, Pivot Arm	
6	64251-001	4	Flat Washer, M5	
7	446136	3	Lockwasher, 5/16 Heavy	
8	400184	3	Screw, 5/16-18 x 3/4” Hex Head	
9	361723	6	Stop, Rubber	
10	446142	2	Lockwasher, 3/8 Heavy	
11	443110	2	Nut, 3/8-16 Hex	
12	366506	2	Washer, Thrust	
13	366517	12	Washer, Belleville	
14	362824	4	Spacer	
15	503553	2	Casting, Pivot	
16	471216	3	• Grease Fitting, Straight	
17	400650	8	Screw, 5/8-18 x 2-1/2” Hex Head	
18	364248	2	Collar	
19	400272	2	Screw, 3/8-16 x 2-1/4” Hex Head	
20	444762	8	Locknut, 3/8-16 Center	
21	4138515	2	Lift Cylinder	
	4138589	1	• Seal Kit	
22	366483	2	Pin, Wing Cylinder	
23	4107220	2	Pin, Cylinder	
24	400262	2	Screw, 3/8-16 x 1: Hex Head	
25	366437.7	1	Bracket, Bulkhead	
26	452006	3	Flat Washer, 5/16	
27	364830	AR	Washer, Shim	
28	471221	4	Grease Fitting, 90°	
29	471214	2	Grease Fitting, Straight	
30	446118	4	Lockwasher, #10 Medium	
31	346091	2	Pin, Retaining	
32	453011	4	Flat Washer, 3/8	
33	446166	8	Lockwasher, 5/8 Heavy	
34	2242015	4	Block, Shaft	
35	3007568	2	Shim	
36	4157000	2	Plate, Switch Actuator	
37	402118	4	Screw, #10-24 x 1/2” Slotted	
38	453023	2	Flat Washer, 1/4	

> Change from previous revision

45.1 Wing Deck Latch

Serial No. All



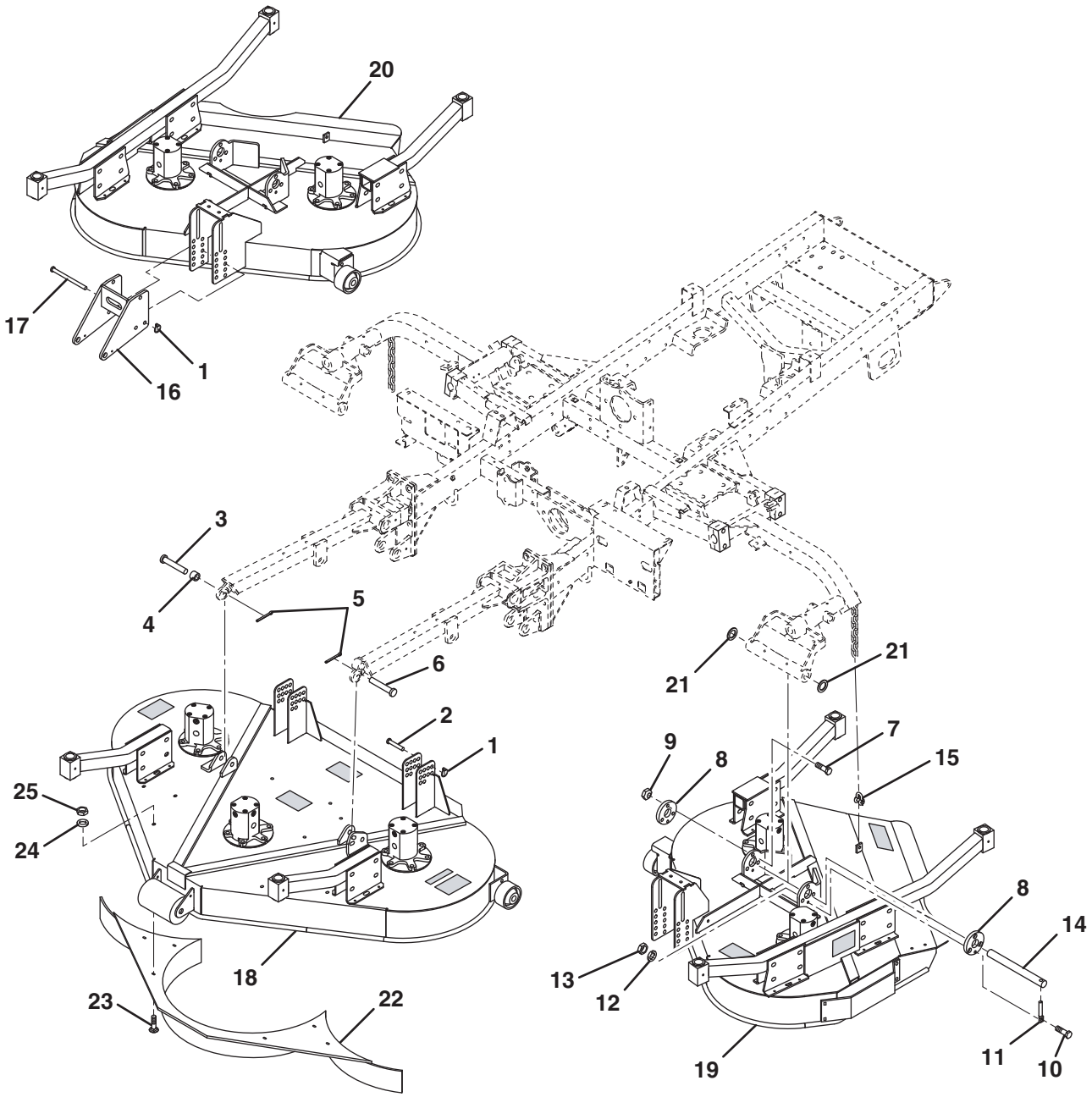


Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	446136	2	Lockwasher, 5/16 Heavy	
2	443106	2	Nut, 5/16-18 Hex	
3	453011	12	Flat Washer, 3/8	
4	446142	12	Lockwasher, 3/8 Heavy	
5	445806	10	Nut, 3/8-16 Hex	
6	400272	8	Screw, 3/8-16 x 2-1/4" Hex Head	
7	132601	2	Bracket, Deck Roller	
8	400264	4	Screw, 3/8-16 x 1-1/4" Hex Head	
9	340525	2	Bracket, Deck Roller	
10	400280	4	Screw, 3/8-16 x 4" Hex Head	
11	3005677	2	Roller, Front Wing Deck	
12	444758	2	Locknut, 1/2-13 Center	
13	444762	8	Locknut, 3/8-16 Center	
14	4125831	2	Switch, Deck Limit	REFERENCE SW8 & SW9, See 60.1
15	4131768	4	Screw, M3-0.5 x 8 mm Phillips	
16	446102	4	Lockwasher, #4	
17	308404	4	Flat Washer, #4	
18	4155082	1	Bracket, Right Side Switch	
19	4155081	1	Bracket, Left Side Switch	
20	132664	2	Hook, Deck Latch	
21	400120	2	Screw, 1/4-20 x 2" Hex Head	
22	444708	4	Locknut, 1/4-20 Center	
23	324887	4	Clip, Deck Latch Cable	
24	366566	2	Cable, Deck Latch	
25	452008	4	Flat Washer, 3/8	
26	453017	2	Flat Washer, 1/2	
27	3005678	2	Rear Wing Deck Roller	
28	400184	2	Screw, 5/16-18 x 3/4" Hex Head	
29	452006	2	Flat Washer, 5/16	
30	366929	2	Plate, Clip Mounting	
31	400422	2	Screw, 1/2-13 x 4" Hex Head	

> Change from previous revision

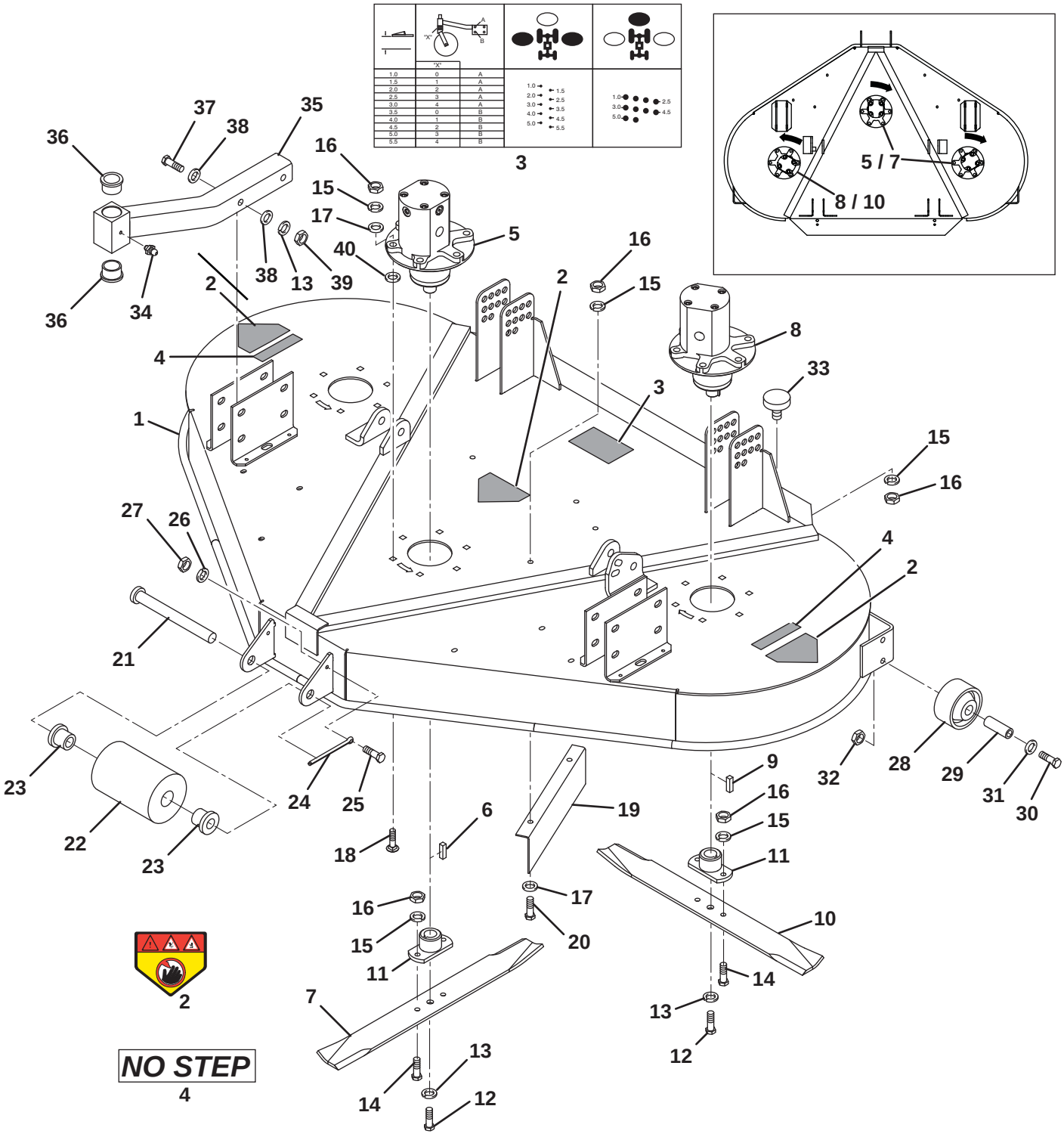
46.1 Deck Mounting

Serial No. All



Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	64173-02	6	Pin, Snap RIng	
2	3000439	2	Clevis Pin, 1/2 x 3-3/4”	
3	3000487	1	Clevis Pin, 5/8 x 3”	
4	346913	2	Spacer	
5	460050	2	Cotter Pin, 3/16 x 1-1/4”	
6	3006300	1	Clevis Pin, 5/8 x 3-5/16”	
7	362464	12	Wheel Bolt, 7/16-20	
8	340433	4	Ring Shaft	
9	346294	12	Nut, 7/16-20 Wheel Lug	
10	400192	2	Screw, 5/16-18 x 1-1/2” Hex Head	
11	366520	2	Retainer Pin	
12	446136	2	Lockwasher, 5/16 Heavy	
13	443106	2	Nut, 5/16-18 Hex	
14	366484	2	Shaft, Pivot	
15	162716	2	Shackle	
16	132600	2	Caster Support	
17	163995	4	Pin	
18	REF	1	Front Deck Assembly	See 47.1
19	REF	1	Left Wing Deck Assembly	See 48.1
20	REF	1	Right Wing Deck Assembly	See 48.1
21	367601	4	Washer, Thrust	
22	2246003	1	Baffle	
23	441602	6	Carriage Bolt, 5/16-18 x 3/4”	
24	452006	6	Flat Washer, 5/16	
25	445802	6	Nut, 5/16-18 Flex Lock	

> Change from previous revision


3
5 / 7
8 / 10
2
NO STEP
4

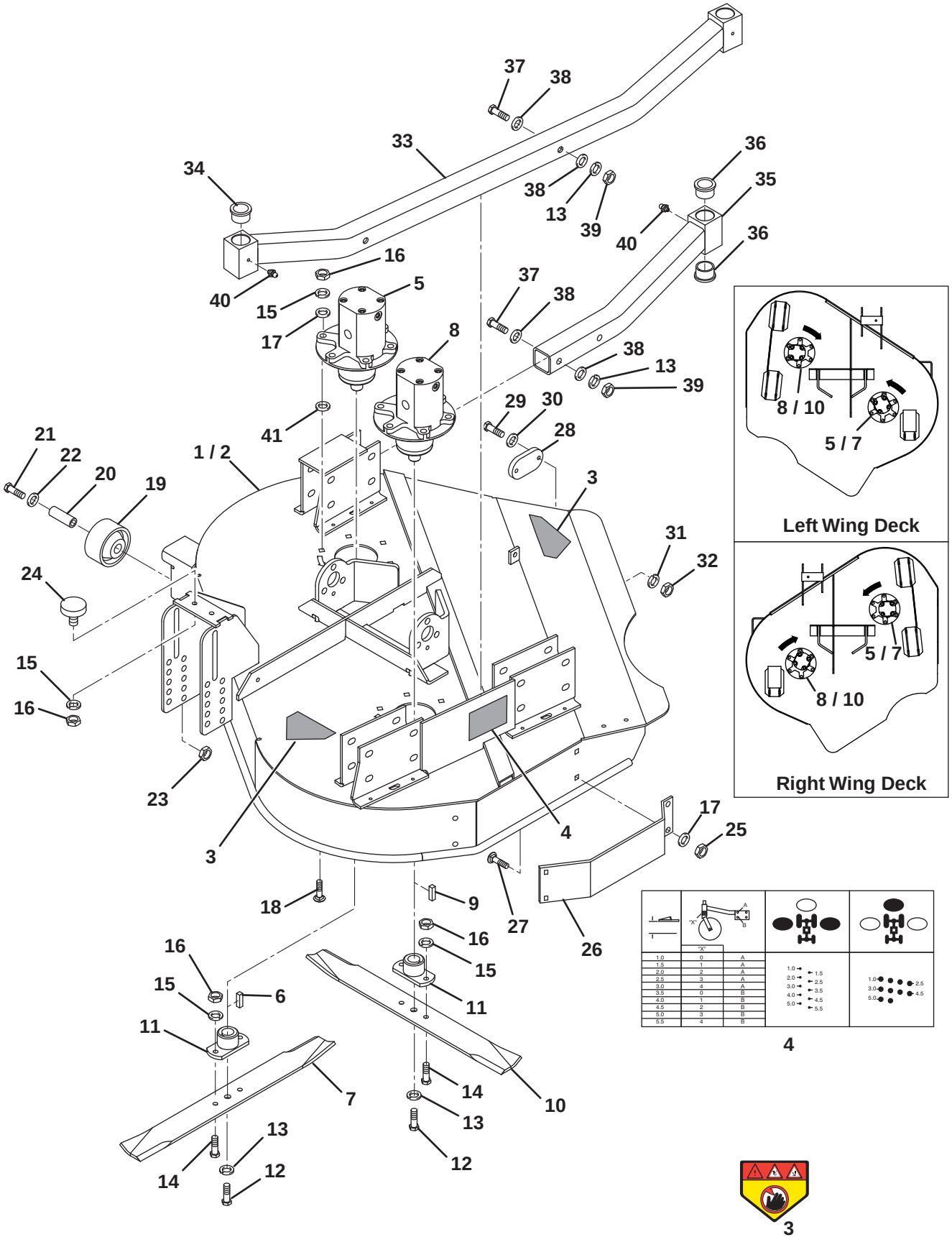
Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	4194000	1	Front Deck	
2	4164381	3	• Decal, Blade Contact Danger	
3	3002676	1	• Decal, Cutting Height	
4	366609	2	• Decal, No Step	
5	2721180	2	Motor, Deck	Counter-Clockwise Rotation
6	557523	1	• Key	
7	4186581	2	Blade, Couter-Clockwise Rotation	
8	2721181	1	Motor, Deck	Clockwise Rotation
9	557523	1	• Key	
10	4186582	1	Blade, Clockwise Rotation	
11	1001885	3	Adapter, Blade	
12	400410	3	Screw, 1/2-13 x 1-3/4” Hex Head	
13	446154	7	Lockwasher, 1/2 Heavy	
14	400264	6	Screw, 3/8-16 x 1-1/4” Hex Head	
15	446142	28	Lockwasher, 3/8 Heavy	
16	443110	28	Nut, 3/8-16 Hex	
17	453011	20	Flat Washer, 3/8	
18	440124	18	Carriage Bolt, 3/8-16 x 1-3/4”	
19	367461	1	Plate, Deck Baffle	
20	400262	2	Screw, 3/8-16 x 1” Hex Head	
21	3002737	1	Shaft, Roller	
22	163425	1	Roller	
23	552824	2	• Bushing	
24	460076	1	Cotter Pin, 1/4 x 3-1/2”	
25	400108	1	Screw, 1/4-20 x 3/4” Hex Head	
26	446130	1	Lockwasher, 1/4 Heavy	
27	443102	1	Nut, 1/4-20 Hex	
28	366562	2	Wheel, Deck	
29	367140	2	Spacer, Wheel	
30	400348	2	Screw, 7/16-14 x 3” Hex Head	
31	453013	2	Flat Washer, 7/16	
32	444753	2	Locknut, 7/16-14 Center	
33	361723	2	Stop, Rubber	
34	471214	2	Grease Fitting, Straight	
35	2720171	2	Caster Arm	
36	363539	2	• Bushing, Caster	
37	400420	4	Screw, 1/2-13 x 3-1/2” Hex Head	
38	453017	4	Flat Washer, 1/2	
39	443118	4	Nut, 1/2-13 Hex	
40	4167200	AR	Shim, 10 GA Motor	

> Change from previous revision

Serial No. All

48.1 Wing Deck

Left Wing Deck Shown (Right Opposite)

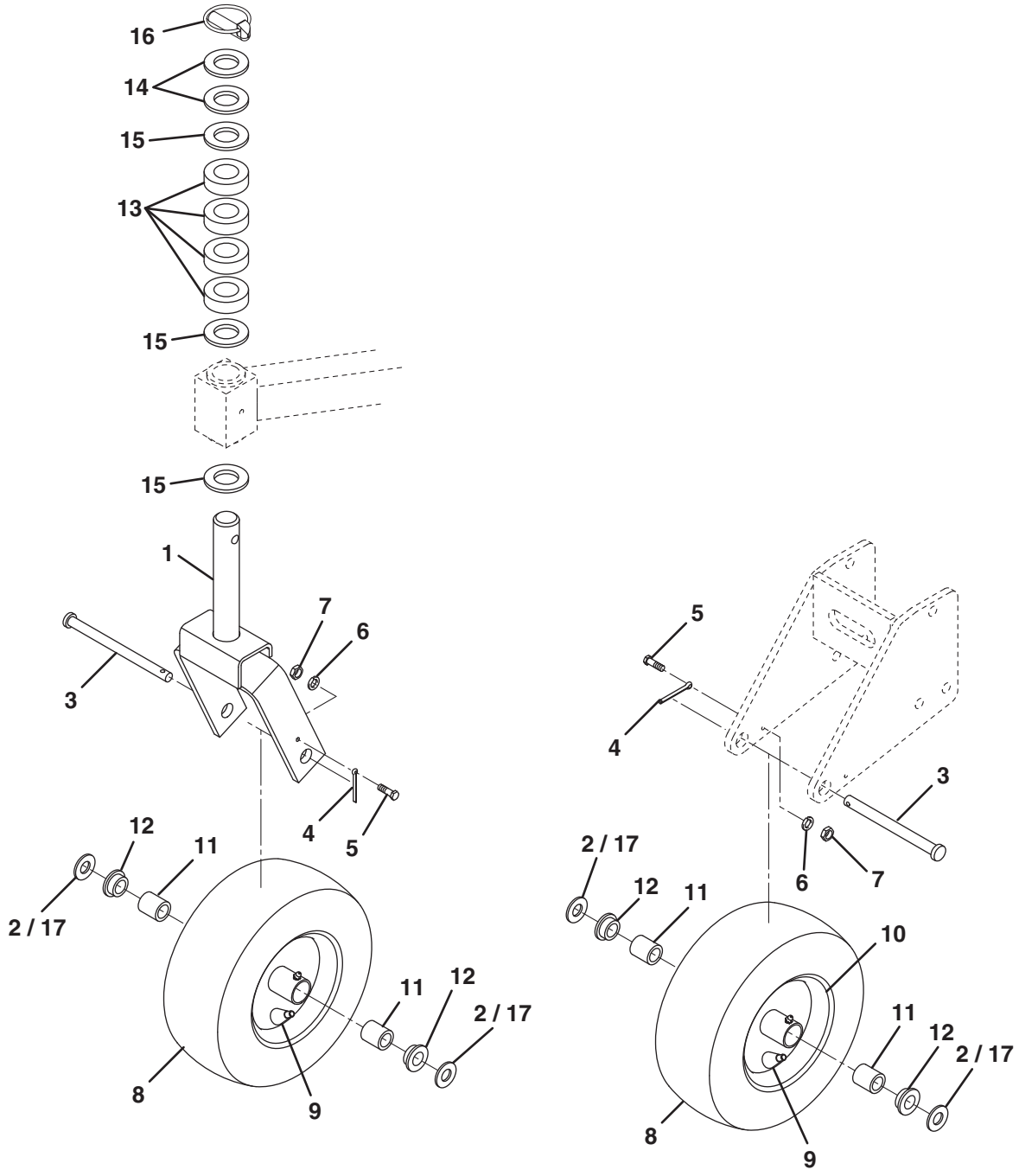


	Item	Part No.	Qty.	Description	Serial Numbers/Notes
	1	5001073	1	Left Wing Deck	Includes Items 3 and 4
	2	5001072	1	Right WIng Deck (Not Shown)	
	3	4164381	2	• Decal, Blade Contact Danger	
	4	3002676	1	• Decal, Cutting Height	
	5	2721180	2	Motor, CCW Rotation Deck	Outside motor on Right Deck
	6	557523	1	• Key	
	7	4186581	2	Blade, Couter-Clockwise Rotation	
	8	2721181	2	Motor, CW Rotation Deck	Inside Motor on Right Deck
	9	557523	1	• Key	
	10	4186582	2	Blade, Clockwise Rotation	
	11	1001885	4	Adapter, Blade	
	12	400410	4	Screw, 1/2-13 x 1-3/4” Hex Head	
	13	446154	12	Lockwasher, 1/2 Heavy	
	14	400264	8	Screw, 3/8-16 x 1-1/4” Hex Head	
	15	446142	34	Lockwasher, 3/8 Heavy	
	16	443110	34	Nut, 3/8-16 Hex	
	17	453011	32	Flat Washer, 3/8	
	18	440124	24	Carriage Bolt, 3/8-16 x 1-3/4”	
	19	366562	2	Wheel, Deck	
	20	367140	2	Spacer, Wheel	
	21	400348	2	Screw, 7/16-14 x 3” Hex Head	
	22	453013	2	Flat Washer, 7/16	
	23	444753	2	Locknut, 7/16-14 Center	
	24	361723	2	Stop, Rubber	
	25	444762	8	Locknut, 3/8-16 Center	
	26	340429	2	Bumper, Deck	
	27	441624	8	Carriage Bolt, 3/8-16 x 1”	
	28	365991	2	Reflector	
	29	403746	4	Screw, #10-24 x 3/4” Hex Head	
	30	452002	4	Flat Washer, #110	
	31	446116	4	Lockwasher, #10	
	32	444310	4	Nut, #10-24 Hex	
	33	2720170	2	Arm, Outside Caster	
	34	363539	4	• Bushing	
	35	2720171	2	Arm, Inside Caster	
	36	363539	4	• Bushing	
	37	400420	8	Screw, 1/2-13 x 3-1/2” Hex Head	
	38	453017	16	Flat Washer, 1/2	
	39	443118	8	Nut, 1/2-13 Hex	
	40	471214	6	Grease Fitting, Straight	
>	41	4167200	AR	Shim, 10 GA Motor	

> Change from previous revision

49.1 Caster Wheels

Serial No. All

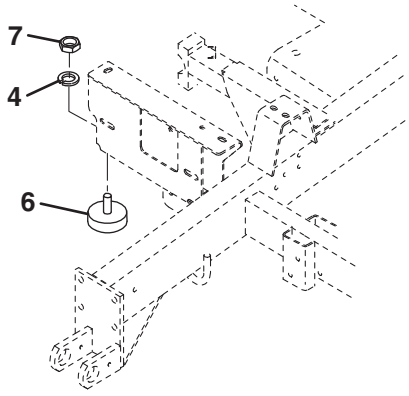


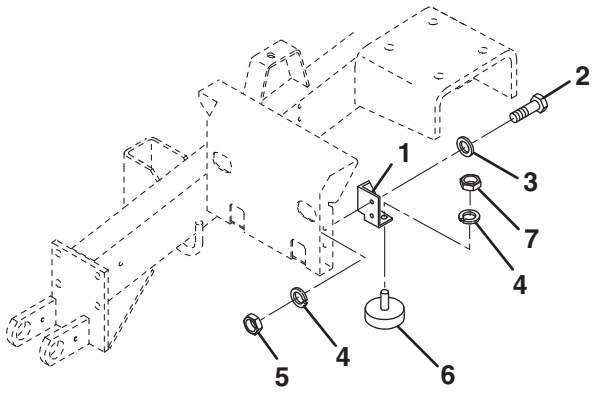
Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	131717	8	Yoke, Caster Wheel Spindle	
2	453022	AR	Flat Washer, 3/4 x 1/8 Thick	
3	3003207	10	Shaft, Caster Wheel	
4	460056	10	Cotter Pin, 3/16 x 2”	
5	403578	10	Screw, #10-24 x 1” Hex Head	
6	446118	10	Lockwasher, #10	
7	444310	14	Nut, #10-24 Hex	
	4185640	10	Caster Wheel, 11 x 4 x 5	
8	148049	1	• Tire, 11 x 4 - 5NHS 4 Ply	
9	363233	1	• Valve Stem	
10	4185641	1	• Wheel and Bearing	
	4187500	1	• • Kit, Bearing & Bushing	
11	4185642	2	• • • Bearing, 1-3/8” OD Roller	
12	4185643	2	• • • Bushing, 1-3/8” Flanged	
13	365772	32	Spacer, Cutting Height	
14	361648	AR	Washer	
15	366593	24	Spacer, Caster Wheel	
16	3004894	10	Pin, Klick Type	
17	307374	AR	Flat Washer, 3/4 x 5/64 Thick	

> Change from previous revision

50.1 Deck Bumper

Serial No. All



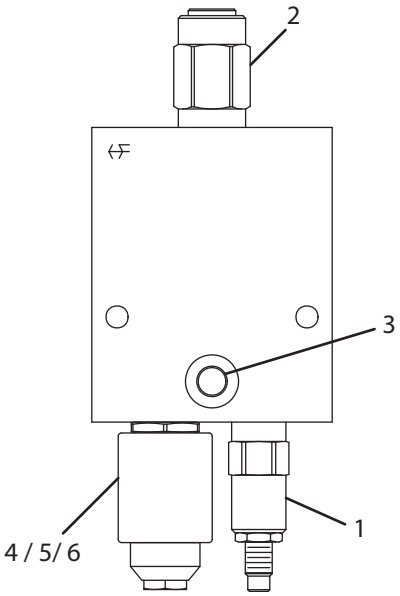


Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	3003427	1	Bracket, Deck Bumper	
2	400262	2	Screw, 3/8-16 x 1” Hex Head	
3	453011	2	Flat Washer, 3/8	
4	446142	4	Lockwasher, 3/8 Heavy	
5	445806	4	Nut, 3/8-16 Hex Nylock	
6	361723	2	Stop, Rubber	
7	444762	2	Locknut, 3/8-16 Hex Center	

> Change from previous revision

51.1 Deck Valve

Part Number 4135582



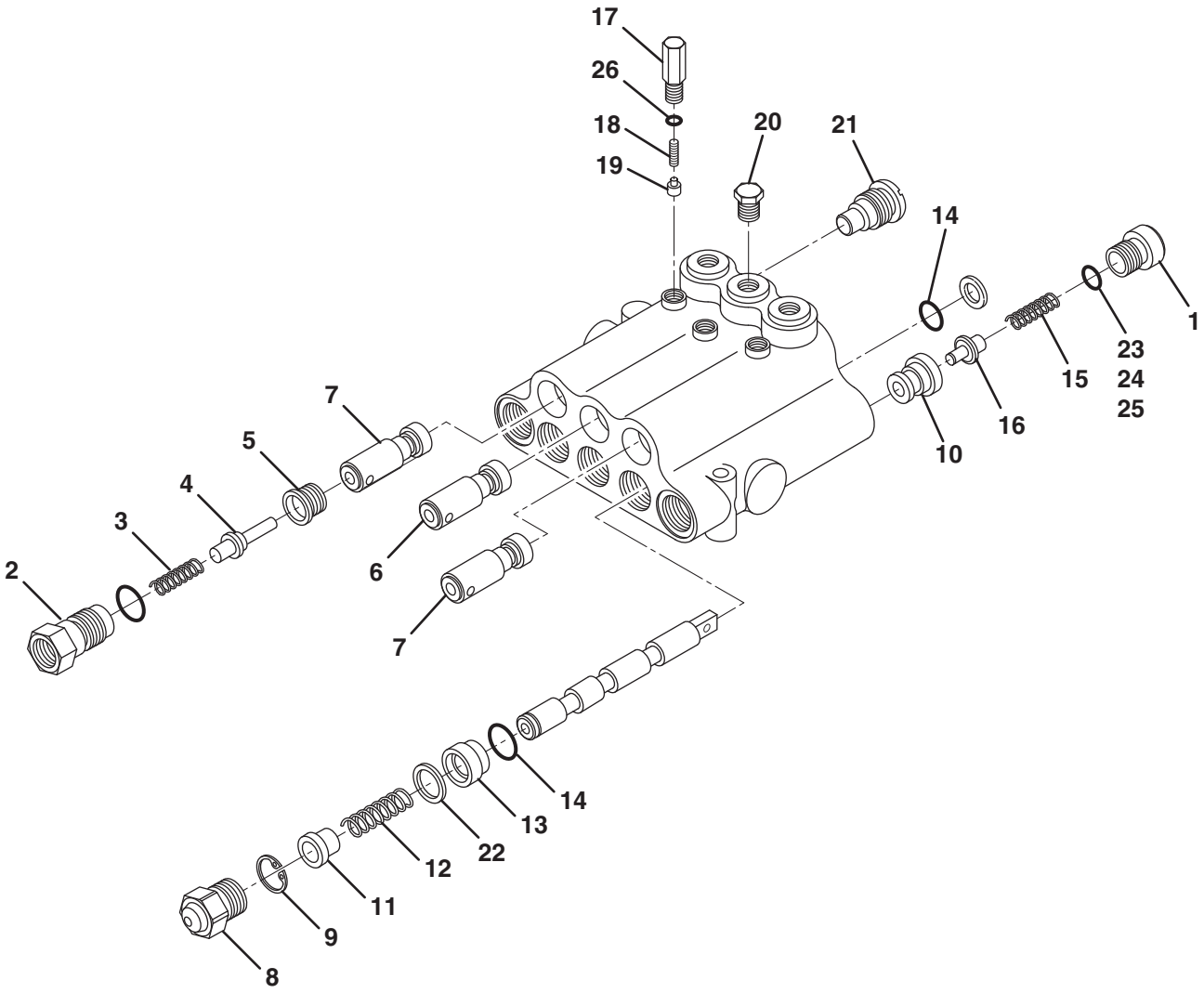
Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	5002911	1	Relief Valve	
	5003579	1	• Seal Kit	
2	5002912	1	Relief Valve	
	5003554	1	• Seal Kit	
3	3010199	1	Plug, SAE #6	
	339897	1	• O-Ring	
4	5002913	1	Solenoid Valve	
	5003579	1	• Seal Kit	
5	4134530	1	Coil, 12 Volt DC	REFERENCE K10, K11, K12, See 60.1
6	2811269	1	Nut, coil w/o-Rings	

> Change from previous revision

Serial No. All

52.1 Lift Valve

Part Number 1001802



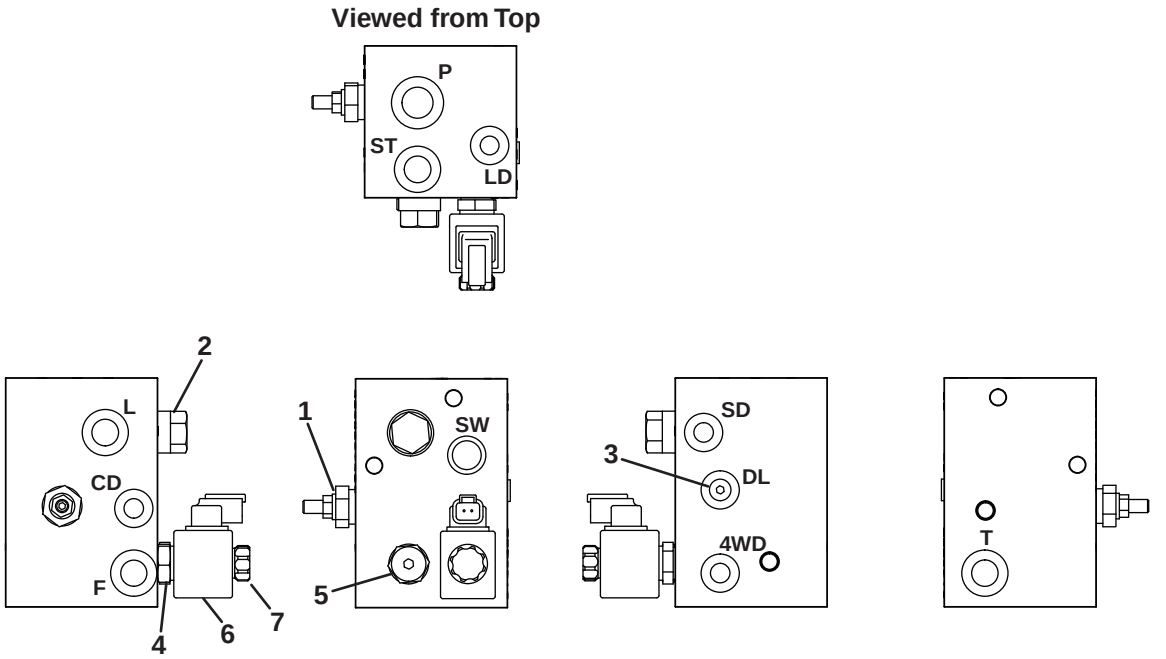
	Item	Part No.	Qty.	Description	Serial Numbers/Notes
	1	558005	1	Plug	
>	2	500745	3	Plug	
	3	4113979	3	Spring	
l	4	N/S	3	Poppet	
	5	500746	3	Seat	
	6	5001599	1	Plunger	
	7	5001603	2	Plunger	
	8	558004	3	Cap	
	9	558007	3	Retaining Ring	
	10	5001613	1	Seat	
	11	558011	3	Spacer	
	12	5001616	3	Spring	
	13	4113979	3	Bushing	
l	14	N/S	6	O-Ring	
	15	5001614	1	Spring	
	16	5001615	1	Poppet	
		5001612	3	Detent Repair Kit	
	17	N/S	1	• Plug, Plunger Detent	
	18	N/S	1	• Spring, Detent	
	19	N/S	1	• Plunger, Detent	
	20	351122	3	Plug	
	21	500750	3	Plug	
	22	558008	3	Washer	
	23	545925	AR	Shim	
	24	4113981	AR	Shim	
	25	4113982	AR	Shim	
	26	546112	AR	Disc	
l		558010	1	Seal Repair Kit	

> Change from previous revision

53.1 Control Valve

Serial No. All

Part Number 4174300

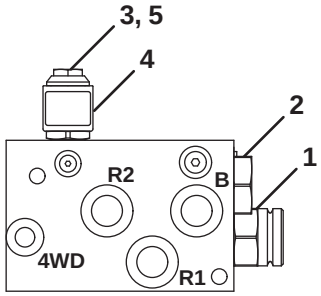


Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	5003510	1	Relief Valve, 200 psi	
	5003579	1	• Seal Kit	
2	556845	1	Flow Control Valve, 4.5 GPM	
	5003579	1	• Seal Kit	
3	3010199	1	Plug	
4	4199500	1	Solenoid Valve, 4WD	
	5003578	1	• Seal Kit	
5	4199520	1	Plug, Cavity	
	4199521	1	• Seal Kit	
6	4134532	1	Coil, 4WD	REFERENCE K14, See 60.1
7	2811253	1	Nut, Coil	

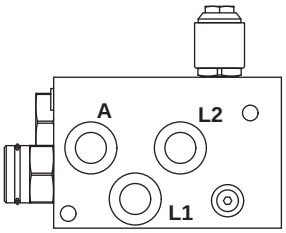
> Change from previous revision

54.1 4WD Valve

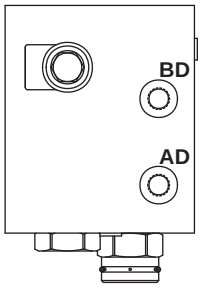
Part Number 4135555



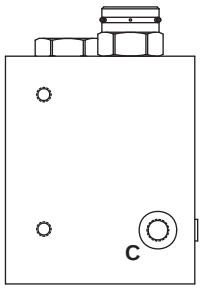
Viewed from Right



Viewed from Left



Viewed from Top



Viewed from Bottom

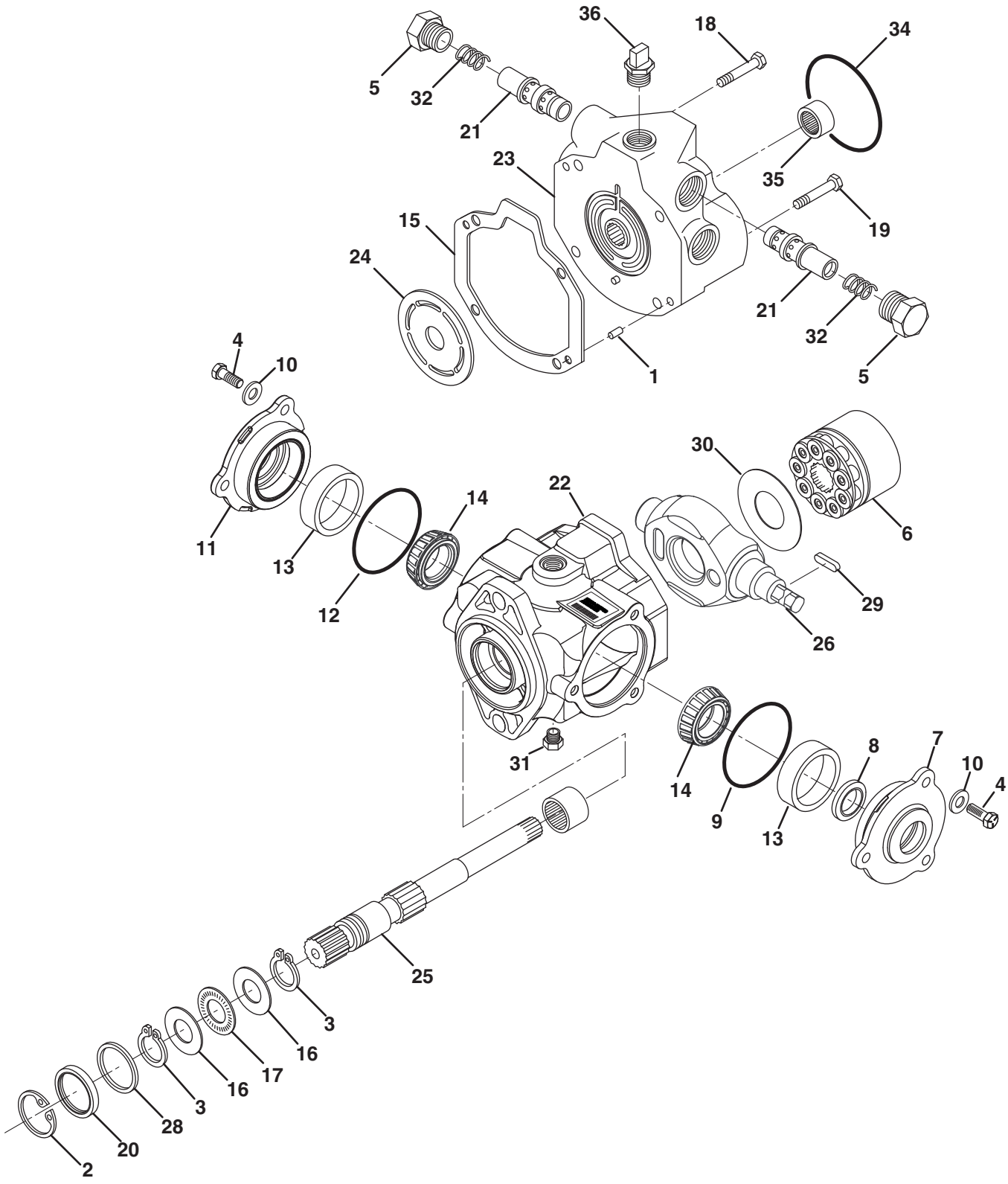
Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	556897	1	Spool Valve	
	5003581	1	• Seal Kit	
2	558038	1	Check Valve	
	5003581	1	• Seal Kit	
3	556847	1	Solenoid Valve, 4WD Reverse	
	5003578	1	• Seal Kit, Solenoid Valve	
4	4134532	1	Coil	REFERENCE K16, See 60.1
5	2811253	1	Nut, Coil	

> Change from previous revision

55.1 Traction Pump

Serial No. All

Part Number 4153880



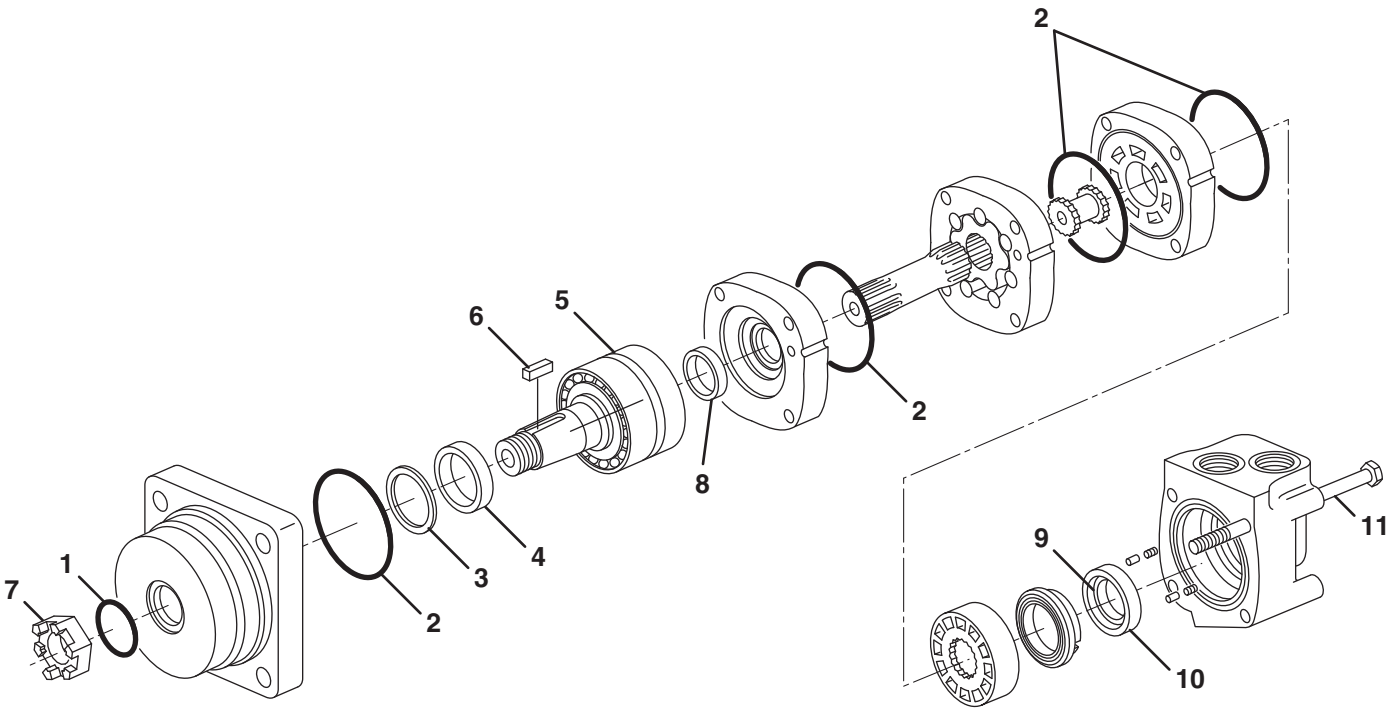
	Item	Part No.	Qty.	Description	Serial Numbers/Notes
	1	557454	2	Dowel Pin	
l	2	N/S	1	Retaining Ring	
l	3	N/S	2	Retaining Ring	
	4	4162501	6	Screw, Cap	
	5	557444	2	Plug	
	6	557442	1	Rotating Kit	
	7	4162502	1	Plate, Control Arm Cover	
	8	4162503	1	• Seal, Control Arm Shaft	
l	9	N/S	1	O-Ring	
	10	4162504	6	Washer	
	11	4162505	1	Plate, Cover	
l	12	N/S	1	O-Ring	
	13	4162506	2	Cup, Bearing	
	14	4162508	2	Cone, Bearing	
l	15	N/S	1	Gasket, Housing	
	16	557426	2	Thrust Race	
	17	557425	1	Thrust Bearing	
	18	4162509	2	Screw, Top	
	19	4162510	2	Screw, Bottom	
	20	557446	1	Shaft Seal, Viton	
	21	557445	2	Relief Valve	
	22	4162511	1	Housing	
	23	557440	1	Backplate	
	24	557441	1	Valve Plate	
	25	557433	1	Drive Shaft	
	26	4162512	1	Cam Plate	
	27	4162513	1	O-Ring Molded	Not Shown
	28	557430	1	Washer	
	29	557450	1	Key, Trunnion	
	30	4162514	1	Insert, Camplate	
	31	4162515	1	Plug	
	32	557448	2	Spring	
l	33	N/S	2	O-Ring	Not Shown
	34	557447	1	O-Ring	
	35	338938	1	Coupler	
	36	557666	1	Tow Valve	
l		4162516	1	Seal Kit	

> Change from previous revision

56.1 Rear Wheel Motor

Serial No. All
Serial No. All

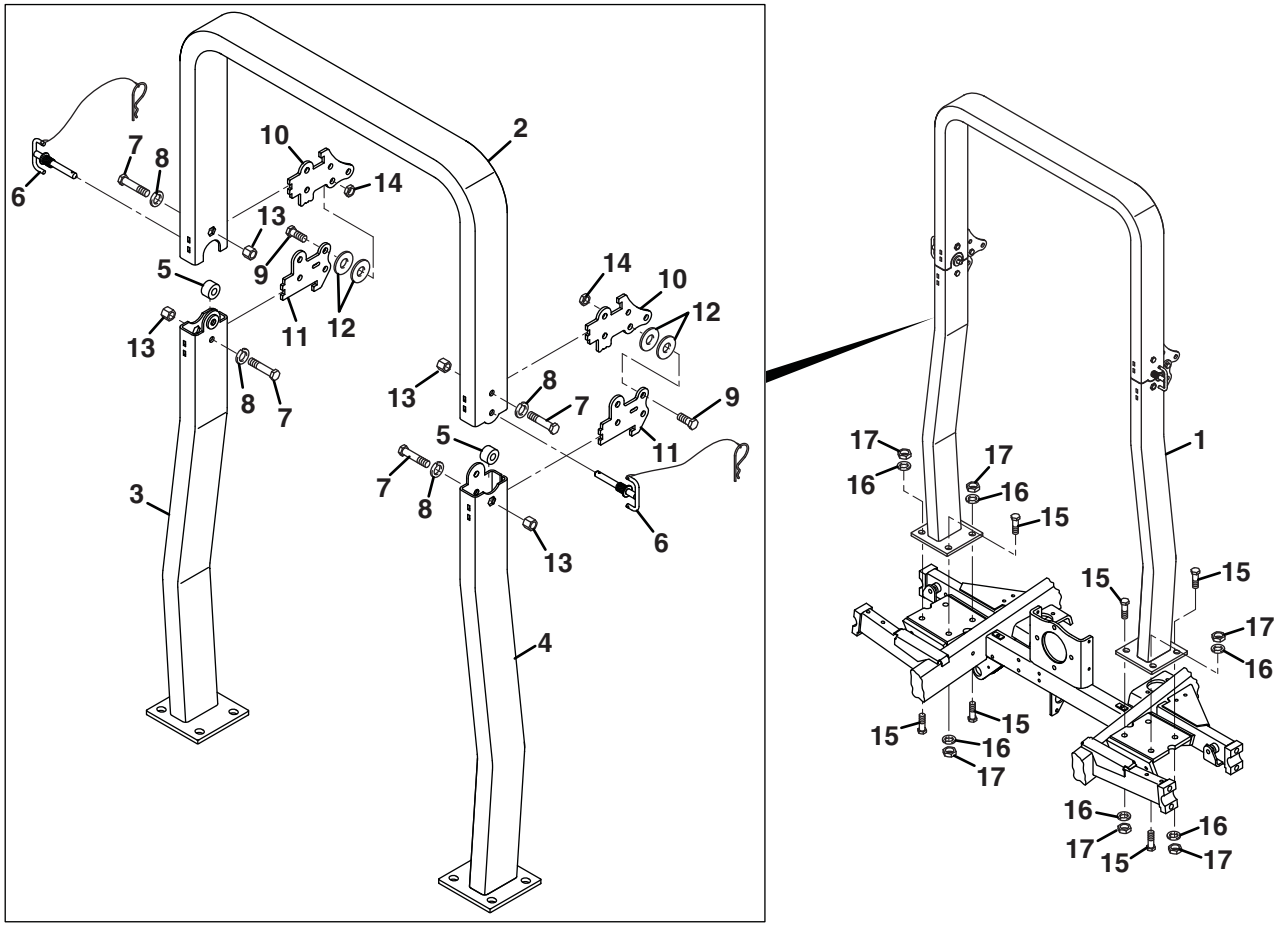
Part Number 4178560



Item	Part No.	Qty.	Description	Serial Numbers/Notes
l 1	N/S	1	Seal Exclusion	
l 2	N/S	4	Seal, 3" I.D.	
t 3	N/S	1	Back-Up Ring	
t 4	N/S	1	Shaft Seal	
5	5003384	1	Shaft and Bearing Kit	
6	554780	1	Key	
7	554779	1	Nut	
l 8	N/S	1	Shaft, Face Seal	
l 9	N/S	1	Inner Face Seal	
l 10	N/S	1	Outer Face Seal	
11	556450	4	Bolt	
l	4178561	1	Rear Seal Kit	
t	4178562	1	Front Seal Kit	

> Change from previous revision

57.1 ROPS



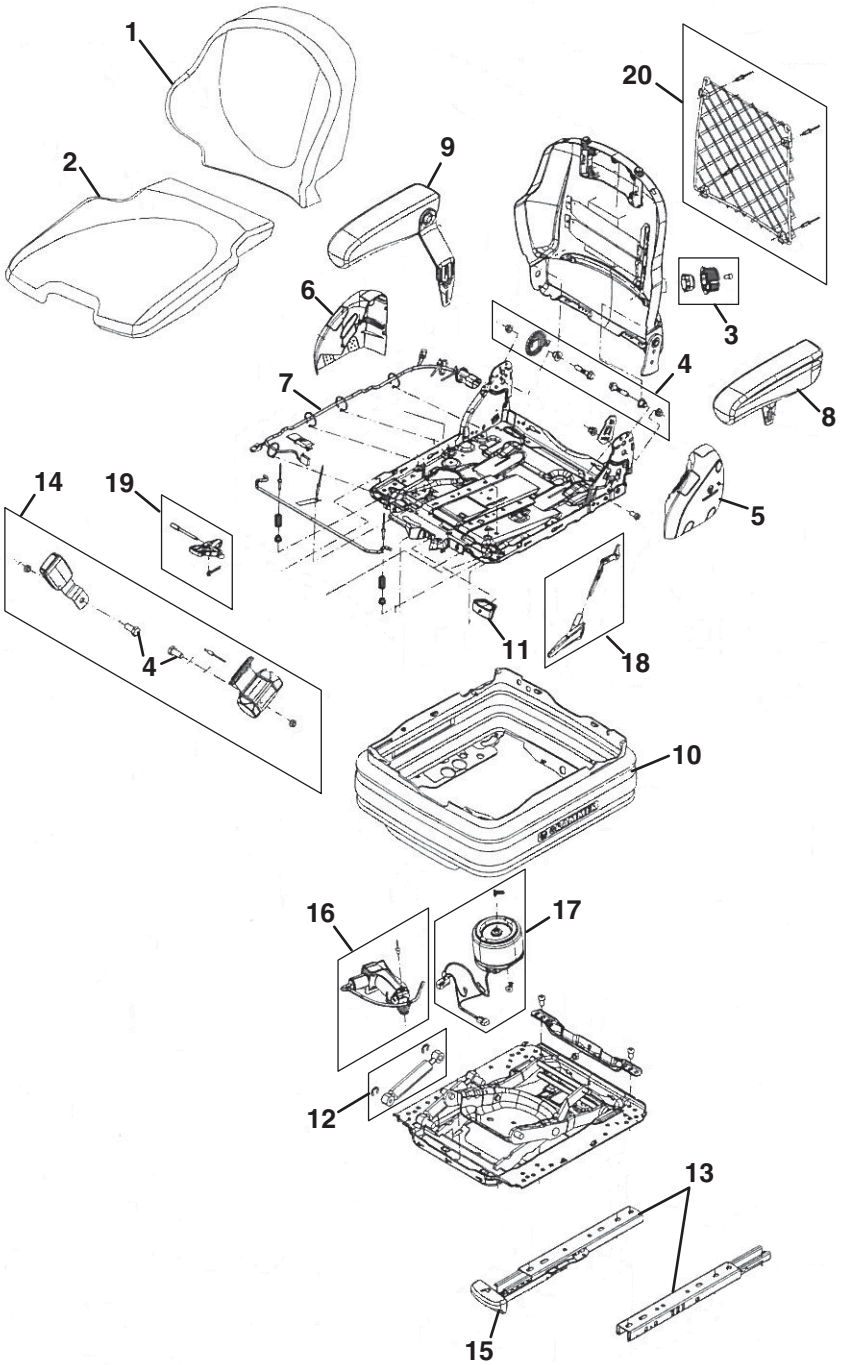
Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	4179004	1	ROPS	
2	N/S	1	• Upper ROPS	
3	N/S	1	• Right Lower ROPS	
4	N/S	1	• Left Upper ROPS	
5	4193120	2	• Tube, Polyurethane	
6	4192460	2	• Pull Pin Assembly	
7	800788	4	• Screw, 1/2-120 x 2-1/4” Hex Head	
8	446152	4	• Lockwasher, 1/2	
9	400406	2	• Screw, 1/2-13 x 1-1/4” Hex Head	
10	4193181	2	• Plate, Upper Hinge	
11	4193180	2	• Plate, Lower Hinge	
12	4193184	4	• Washer	
13	4193200	4	• Nut, 1/2-20 Long Hex	
14	64151-5	2	• Nut	
15	400616	8	Screw, 5/8-11 x 2” Hex Head	
16	446166	8	Lockwasher, 5/8 Heavy	
17	443126	8	Nut, 5/8-11 Hex	

> Change from previous revision

Serial No. All

58.1 Seat

Part Number 4185878



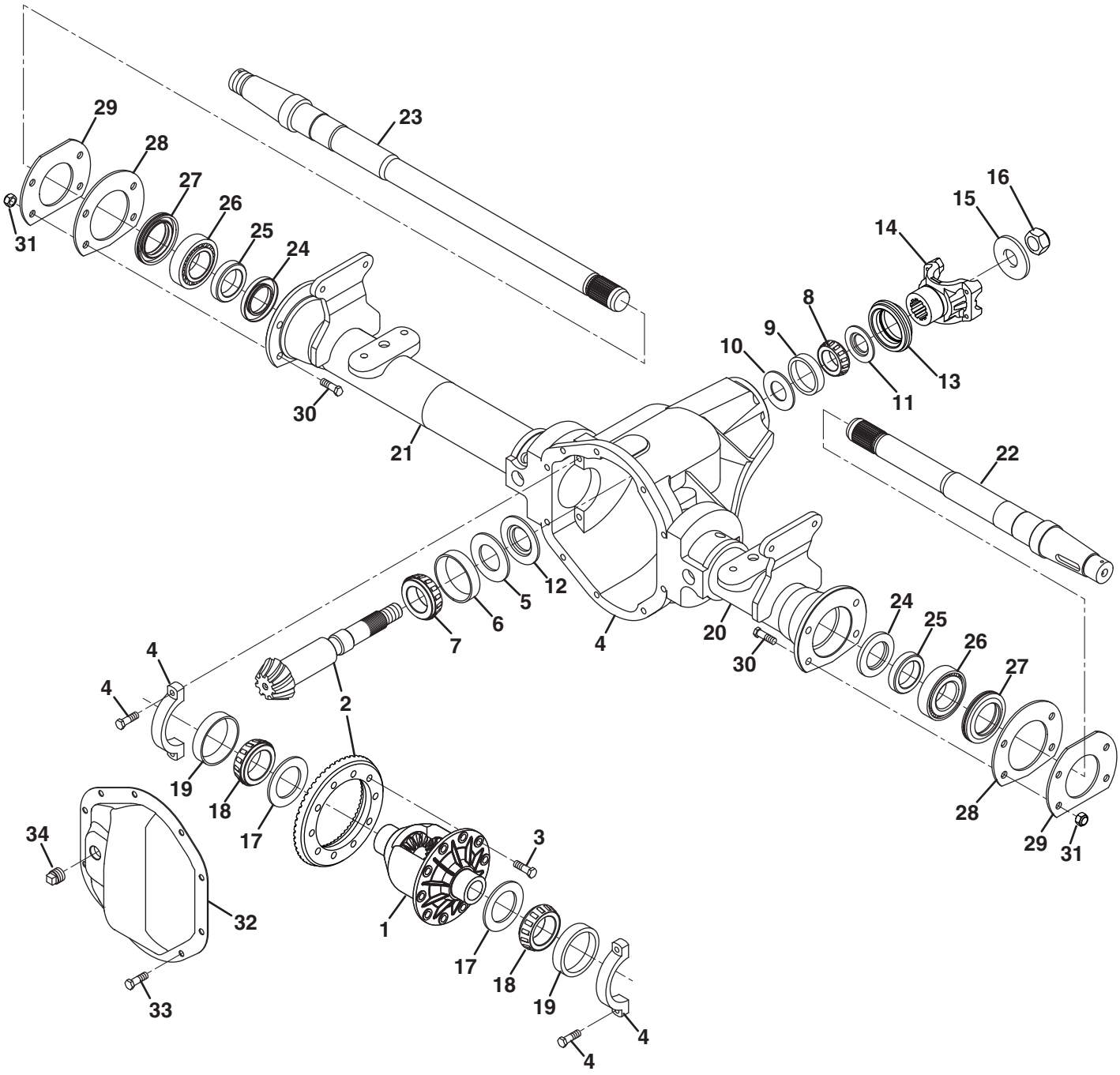
Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	4200240	1	Backrest Cushion	
2	4200241	1	Seat Cushion	
3	4173562	1	Lumbar Handle Kit	
4	4173563	1	Wear Parts Kit, Backrest Attatchment	
5	4200244	1	Cover, Left Side	
6	4200245	1	Cover, Right Side	
7	4173566	1	OPS Switch Kit	
8	4173567	1	Left Side Adjustable Armrest Kit	
9	4173568	1	Right Side Adjustable Armrest Kit	
10	4200249	1	Bellows	
11	4200251	1	Weight Adjust Handle	
12	4173573	1	Shock Absorber Kit	
13	4200251	1	Adjuster Rails	Does not include lever.
14	4173575	1	Seat Belt	
15	4200253	1	Lever Kit, Slide Rail	
16	4200254	1	Compressor, 12V	
17	4200255	1	Air Spring Kit	
18	4173579	1	Backrest Adjustment Kit	
19	4200257	1	Lever, Weight Adjust Kit	
20	4200258	1	Document Net Kit	

> Change from previous revision

59.1 Front Axle

Serial No. All

Part Number 4172400

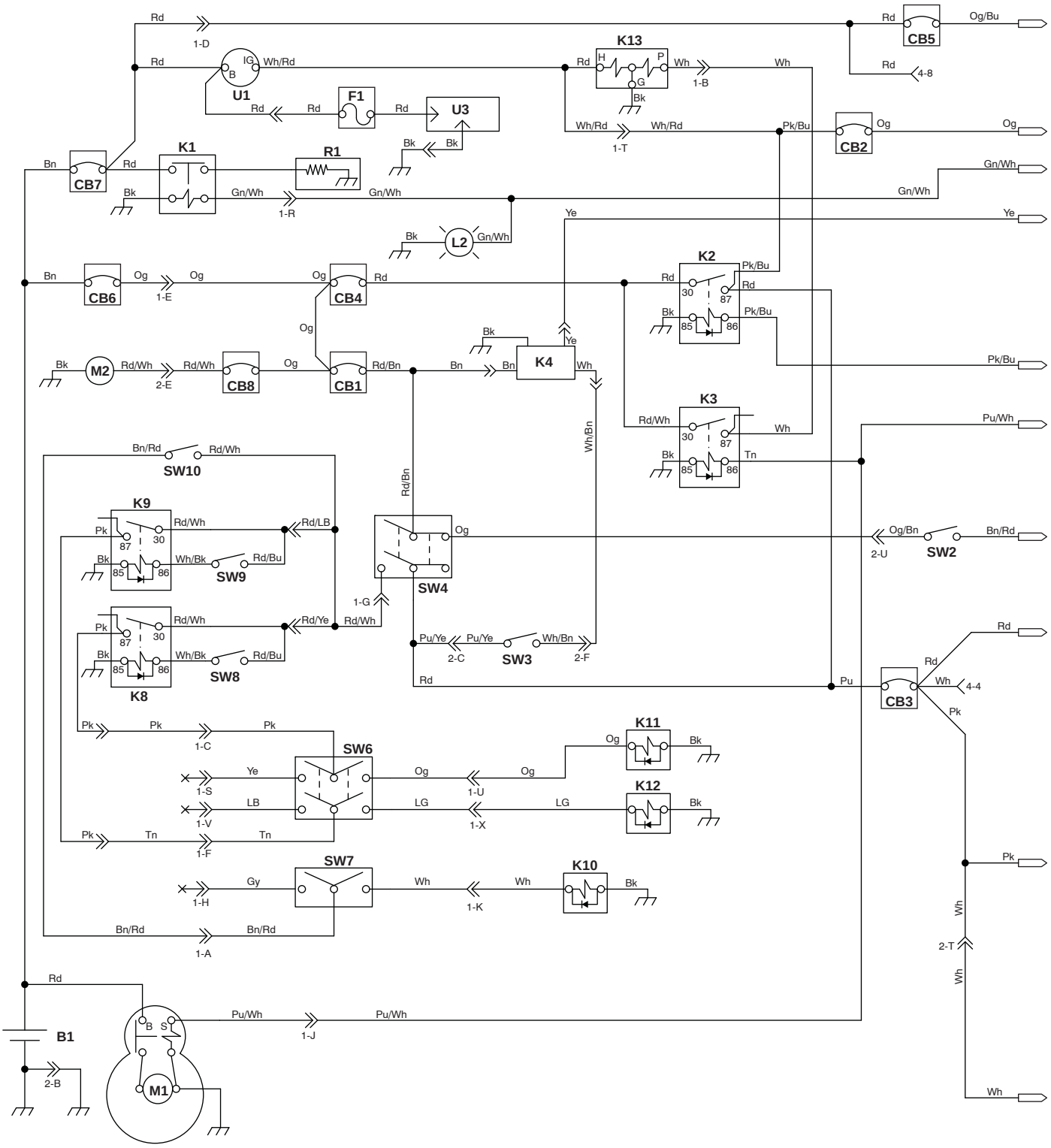


Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	4201300	1	Case Assembly, Differential (T/L)	
2	4201320	1	Gear and Pinion Assembly, Hypoid	
3	4201520	10	Screw, Gear Drive	
4	N/S	1	Carrier Sub Assembly	Includes bearing caps and screws
5	4201582	1	Shim, Adjustment	
6	4201600	1	Bearing Cup, Roller	
7	4201640	1	Bearing Cone, Roller	
8	4201641	1	Bearing Cone, Roller	
9	4201642	1	Bearing Cup, Roller	
10	4201643	1	Shim, Adjustment	
11	4201660	1	Slinger, Pinion Oil Seal	
12	4201760	1	Baffle, Pinion Oil	
13	4201762	1	Seal, Oil	
14	4201922	1	End Yoke	
15	4201961	1	Washer, Flat	
16	4202000	1	Nut, Pinion	
17	4202020	1	Shim, Adjustment	
18	4202040	2	Bearing Cone, Roller	
19	4202060	2	Bearing Cup, Roller	
20	N/S	1	Left Side Axle Tube	
21	N/S	1	Right Side Axle Tube	
22	4203602	1	Left Side Axle Shaft	
23	4203603	1	Right Side Axle Shaft	
24	4203604	2	Inner Shaft Seal	
25	4203605	2	Collar	
26	4203606	2	Bearing	
27	4203607	2	Outer Shaft Seal	
28	4203608	2	Steel Spacer	
29	4203609	2	Plate, Retainer	
30	4203610	4	Screw, Machined	
31	4203611	4	Nut	
32	4203612	1	Cover, Differential	
33	4203613	10	Screw, Differential Cover	
34	4203614	1	Plug, Oil Level/Fill	
35	4203615	1	Vent	

> Change from previous revision

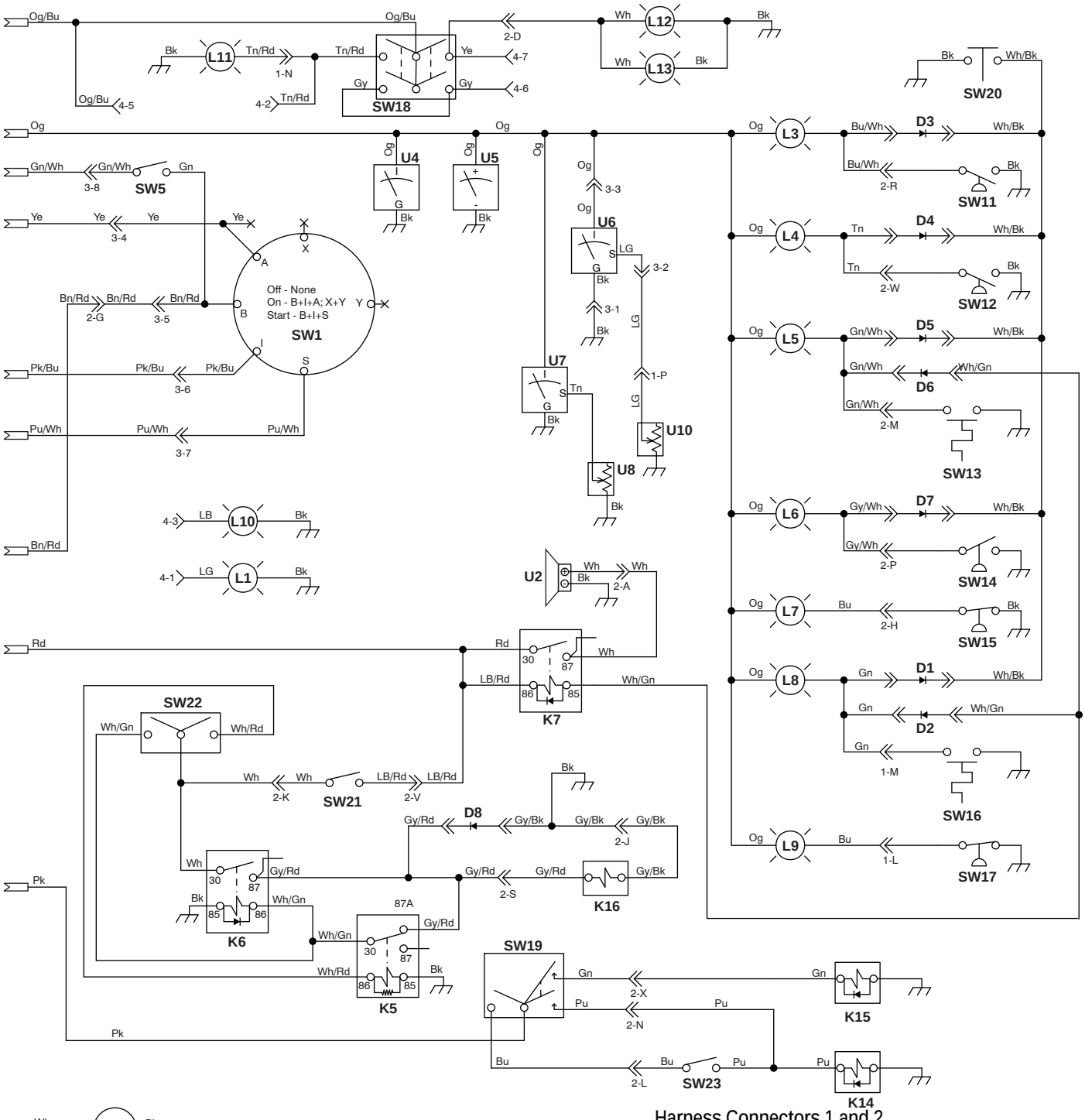
60.1 Electrical Schematic

Serial No. All



Wire Color Abbreviations

Bk - Black	Gy - Gray	Pk - Pink	Wh - White
Bn - Brown	LB - Light Blue	Pu - Purple	Ye - Yellow
Bu - Blue	LG - Light Green	Rd - Red	
Gn - Green	Og - Orange	Tn - Tan	

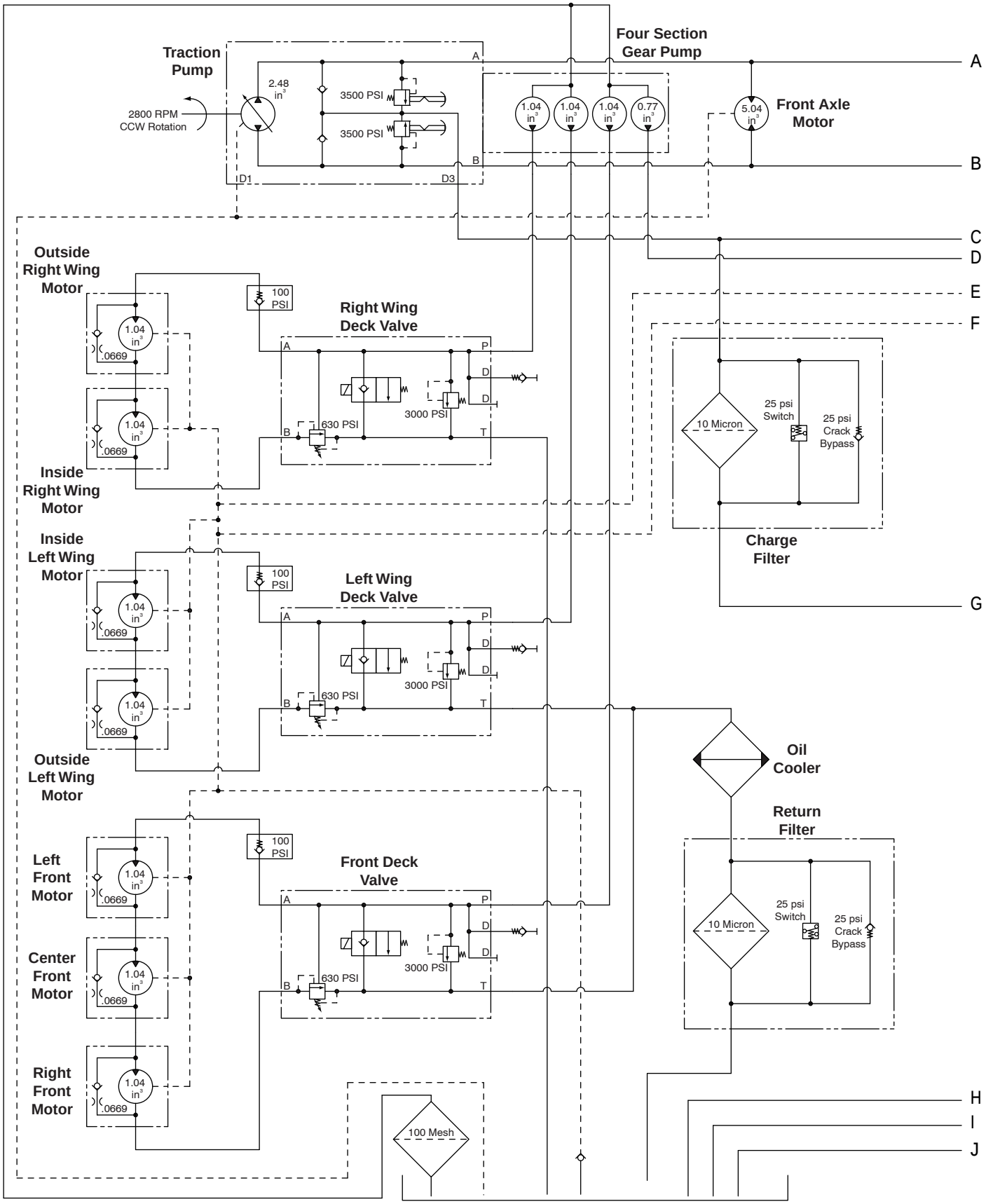

Og/Bu
Bk
L11
Tn/Rd
1-N
Tn/Rd
Ye
4-7
Gy
Gy
4-6
4-2
Tn/Rd
SW18
Og/Bu
4-5
2-D
Wh
L12
Bk
Wh
L13
Bk
Bk
Wh/Bk
SW20
Og
Gn/Wh
Gn/Wh
Gn
3-8
SW5
Ye
Ye
Ye
Ye
3-4
Bn/Rd
Bn/Rd
Bn/Rd
2-G
3-5
Pk/Bu
Pk/Bu
Pk/Bu
3-6
Pu/Wh
Pu/Wh
Pu/Wh
3-7
Bn/Rd
A
X
B
Y
I
S
Off - None
On - B+I+A; X+Y
Start - B+I+S
SW1
U4
U5
Og
Og
Og
Og
3-3
Og
U6
S
LG
G
Bk
3-2
3-1
Bk
LG
U7
S
Tn
G
Bk
LG
1-P
U10
U8
Bk
4-3
LB
L10
Bk
4-1
LG
L1
Bk
U2
Wh
Bk
Wh
2-A
Rd
Rd
30
87
Wh
LB/Rd
Wh/Gn
86
85
K7
SW22
Wh/Gn
Wh/Rd
Wh
Wh
2-K
SW21
LB/Rd
LB/Rd
2-V
Bk
D8
Gy/Rd
Gy/Bk
Gy/Bk
Gy/Bk
2-J
Wh
30
87
Gy/Rd
Gy/Rd
Gy/Rd
Gy/Bk
2-S
K16
Bk
85
86
Wh/Gn
K6
87A
Wh/Gn
Gy/Rd
30
87
Wh/Rd
Bk
86
85
K5
Pk
Pk
SW19
Gn
2-X
Gn
K15
Pu
Pu
2-N
Bu
Bu
Pu
Pu
2-L
SW23
K14
Wh
U9
Bk
Og
L3
Bu/Wh
D3
Wh/Bk
Bu/Wh
2-R
Bk
SW11
Og
L4
Tn
D4
Wh/Bk
Tn
2-W
Bk
SW12
Og
L5
Gn/Wh
D5
Wh/Bk
Gn/Wh
D6
Wh/Gn
Gn/Wh
2-M
SW13
Og
L6
Gy/Wh
D7
Wh/Bk
Gy/Wh
2-P
SW14
Og
L7
Bu
Bk
2-H
SW15
Og
L8
Gn
D1
Wh/Bk
Gn
D2
Wh/Gn
Gn
1-M
SW16
Og
L9
Bu
1-L
SW17
Harness Connectors 3 and 4
Harness Connectors 1 and 2
Ignition Harness
Optional Cab Harness
Console Harness
Engine Harness
Mower Harness
Console Harness

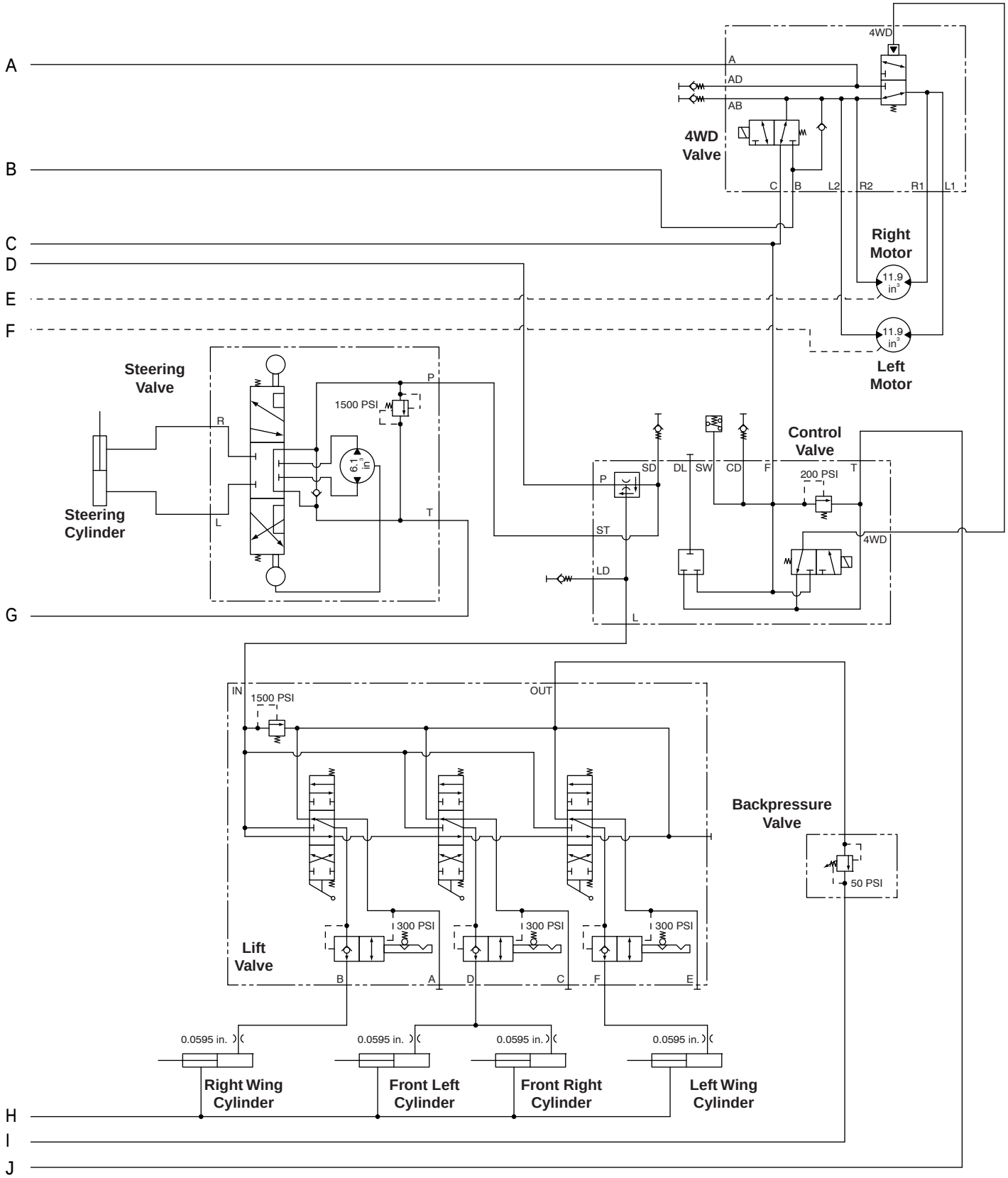
Item	Reference Illustration	Part Number	Description	Serial Numbers/Notes
B1	See 4.1	N/S	Battery	
CB1	See 7.1	338601	10 Amp Circuit Breaker (Interlock)	
CB2	See 7.1	338601	10 Amp Circuit Breaker (Instruments)	
CB3	See 7.1	338601	10 Amp Circuit Breaker (Cruise, 4WD)	
CB4	See 7.1	338558	30 Amp Circuit Breaker (Accessories)	
CB5	See 7.1	338558	30 Amp Circuit Breaker (Lights)	
CB6	See 18.1	361439	50 Amp Circuit Breaker (Main)	
CB7	See 18.1	361439	50 Amp Circuit Breaker (Alternator)	
CB8	See 7.1	338601	10 Amp Circuit Breaker (Air Ride Seat)	
D1	Not Shown	555846	Diode, 3 Amp (Water Temp-Test)	Labled A
D2	Not Shown	555846	Diode, 3 Amp (Water Temp-Horn)	Labled B
D3	Not Shown	555846	Diode, 3 Amp (Air Cleaner-Test)	Labled C
D4	Not Shown	555846	Diode, 3 Amp (Return Filter-Test)	Labled D
D5	Not Shown	555846	Diode, 3 Amp (Oil Temperature-Test)	Labled E
D6	Not Shown	555846	Diode, 3 Amp (Oil Temperature-Horn)	Labled F
D7	Not Shown	555846	Diode, 3 Amp (Charge Filter-Test)	Labled G
D8	Not Shown	555846	Diode, 3 Amp (Cruise Control)	Labled H
D9	Not Shown	555846	No Function	Labled J
D10	Not Shown	555846	No Function	Labled K
F1	See 42.1	836892	10 Ampf Fuse (Accessory Plug)	Included in Harness 4175664
K1	See 40.1	131905	Glow Plug Solenoid	
K2	See 40.1	365963	Accessory Relay	Labled 6
K3	See 40.1	365963	Fuel Solenoid Relay	Labled 4
K4	See 40.1	3003036	Seat Time Delay Relay	
K5	See 40.1	4193880	Brake Relay	Labled 1
K6	See 40.1	365963	Cruise Control Relay	Labled 2
K7	See 40.1	365963	Horn Relay	Labled 5
K8	See 40.1	365963	Right Wing Limit Switch Relay	
K9	See 40.1	365963	Left Wing Limit Switch Relay	
K10	See 51.1	4134530	Front Deck Valve Coil	Included in Part No. 4135582
K11	See 51.1	4134530	Right Wing Deck Coil	Included in Part No. 4135582
K12	See 51.1	4134530	Left Wing Deck Coil	Included in Part No. 4135581
K13	See 18.1	4134270	Fuel Solenoid	Included in Engine
K14	See 53.1	4191664	4WD Coil	Included in Part No. 4174300
K15	See 54.1	4134532	4WD Reverse Coil	Included in Part No. 4135555
K16	See 11.1	340783	Cruise Control Magnet	
L1	Not Shown	555845	Right Turn Indicator Light	
L2	Not Shown	555845	Glow Plug Active Light	
L3	Not Shown	555845	Air Cleaner Service Light	
L4	Not Shown	555845	Return Filter Service Light	
L5	Not Shown	555845	Hydraulic Oil Temp Warning Light	
L6	Not Shown	555845	Charge Filter Service Light	
L7	Not Shown	555845	Low Charge Pressure Warning Light	
L8	Not Shown	555845	Water Temp Warning Light	

Item	Reference Illustration	Part Number	Description	Serial Numbers/Notes
L9	Not Shown	555845	Low Engine Oil Pressure Warning Light	
L10	Not Shown	555845	Left Turn Light	
L11	Optional		Tail Light	
L12	Optional		Head Light	Included in Kit 69128
L13	Optional		Head Light	Included in Kit 69128
M1	See 18.1	556988	Starter Motor	Included in Engine
M2	Optional		Air Ride Seat	
R1	See 18.1	556996	Glow Plugs	Included in Engiine
SW1	See 7.1	1001958	Ignition Switch	
SW2	See 12.1	1000649	Parking Brake Switch	
SW3	See 6.1	N/S	Seat Switch	
SW4	See 7.1	3001372	PTO Switch	
SW5	See 7.1	365043	Glow Plug Switch	
SW6	See 7.1	3001374	Wing Mower Switch	
SW7	See 7.1	3001373	Front Mower Switch	
SW8	See 45.1	4125831	Right Wing Deck Limit Switch	
SW9	See 45.1	4125831	Left Wing Deck Limit Switch	
SW10	See 43.1	3001079	Front Deck Limit Switch	
SW11	See 16.1	364883	Air Cleaner Service Switch	
SW12	See 23.1	365974	Return Filter Service Switch	
SW13	See 24.1	367551	Hydraulic Oil Temperature Switch	
SW14	See 23.1	556419	Charge Filter Service Switch	
SW15	See 25.1	132380	Charge Pressure Switch	
SW16	See 18.1	367551	Water Temperature Switch	
SW17	See 18.1	554018	Oil Pressure Switch	Included in Engine
SW18	Optional	3001374	Light Switch	Included in 69129 and Kit 69128
SW19	See 7.1	3001370	4WD Switch	
SW20	See 15.1	162739	Horn / Warning Light Test Switch	
SW21	See 12.1	1000649	Brake Pedal Switch	
SW22	See 7.1	3001371	Cruise Control Switch	
SW23	See 10.1	1000649	Reverse Sensing Switch	
U1	See 18.1	5000938	Alternator (Standard)	Included in Engine
U2	See 15.1	5000917	Horn	
U3	See 42.1	N/S	Accessory Plug	Included in Harness 4175664
U4	See 7.1	162721	Volt Meter	
U5	See 7.1	162723	Hour Meter	
U6	See 7.1	3005121	Temperature Gauge	
U7	See 7.1	365943	Fuel Gauge	
U8	See 22.1	163986	Fuel Sender	
U9	See 22.1	163574	Fuel Pump	
U10	See 17.1	162722	Temperature Sender	

61.1 Hydraulic Schematic

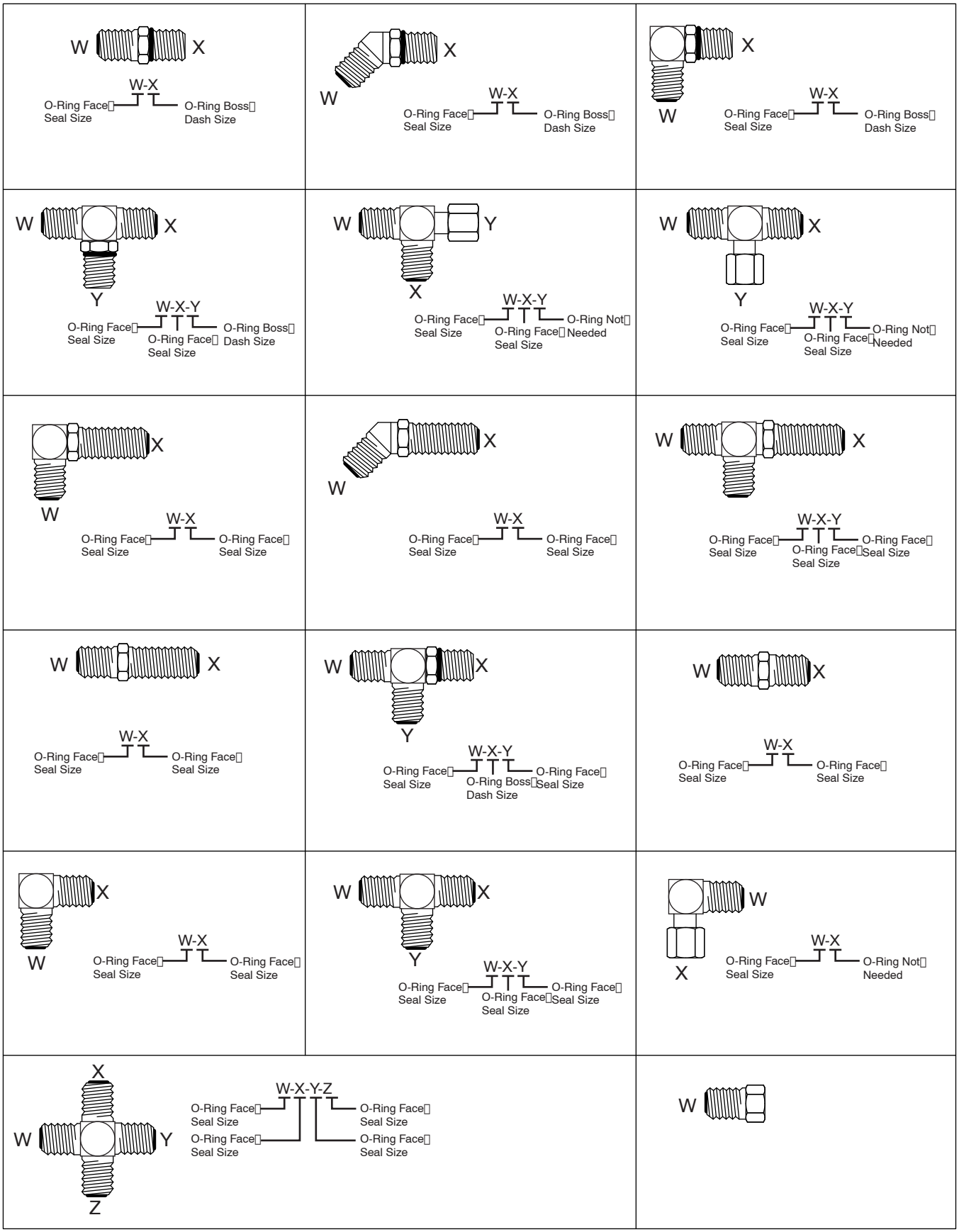
Serial No. All




A
B
C
D
E
F
G
H
I
J
4WD
A
AD
AB
4WD Valve
C
B
L2
R2
R1
L1
Right Motor
11.9 in³
11.9 in³
Left Motor
Steering Valve
P
1500 PSI
R
6.1 in³
T
L
Steering Cylinder
Control Valve
P
SD
DL
SW
CD
F
T
200 PSI
4WD
ST
LD
L
IN
1500 PSI
OUT
Backpressure Valve
50 PSI
300 PSI
300 PSI
300 PSI
Lift Valve
B
A
D
C
F
E
0.0595 in.
0.0595 in.
0.0595 in.
0.0595 in.
Right Wing Cylinder
Front Left Cylinder
Front Right Cylinder
Left Wing Cylinder

62.1 O-Ring Chart

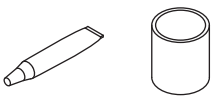
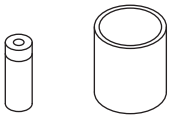
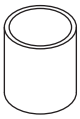
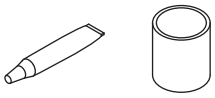
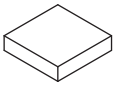
Serial No. All



Adapter Part Number.	Dash Size	Adapter Type	(W) O-Ring	(X) O-Ring	(Y) O-Ring	(Z) O-Ring
339979	6-6	Straight Adapter	339909	339897		
339983	8-6	Straight Adapter	339910	339897		
339984	8-8	Straight Adapter	339910	339898		
339989	10-10	Straight Adapter	339911	339899		
340003	6-6	Straight Adapter	339906	339897		
340029	8-8	45° Adapter	339910	339898		
340033	10-10	45° Adapter	339911	339899		
340061	6-6	90° Adapter	339909	339897		
340065	8-6	90° Adapter	339910	339897		
340066	8-8	90° Adapter	339910	339898		
340070	10-10	90° Adapter	339911	339899		
340074	12-12	90° Adapter	339912	339900		
340077	16-16	90° Adapter	339913	339901		
340078	6-6	90° Adapter	339909	339897		
340089	16-20	90° Adapter	339913	339902		
340119	6-6-6	Swivel Run Tee	339909	339909		
340120	8-8-8	Swivel Run Tee	339910	339910		
340144	8-8-8	Swivel Branch Tee	339910	339910		
340215	6-6-6	Bulkhead Run Tee	339909	339909	339909	
340263	6-6-6	Straight Thread Run Tee	339909	339897	339909	
340269	10-12-12	Straight Thread Run Tee	339911	339899	339912	

SAE Boss O-Rings			ORS Face Seal O-Rings		
Dash Size	Thread Size	O-Ring	Tube Size	Thread Size	O-Ring
2	5/16-24	459290	4	9/16-18	339908
3	3/8-24	459291	6	11/16-16	339909
4	7/16-20	339896	8	13/16-16	339910
5	1/2-20	459293	10	1-14	339911
6	9/16-18	339897	12	1 3/16-12	339912
8	3/4-16	339898	16	1 7/16-12	339913
10	7/8-14	339899	20	1 11/16-12	339914
12	1 1/16-12	339900	24	2-12	339915
14	1 3/16-12	459296			
16	1 5/16-12	339901			
20	1 5/8-12	339902			
24	1 7/8-12	339903			
32	2 1/2-12	339904			

> Change from previous revision

	Hydraulic Fluid*	
5001405	Two 2-1/2 Gallon Container of ISO VG68 Oil	
5001404	One 5 Gallon Pail of ISO VG68 Oil	
2500548	Two 2-1/2 Gallon Container of 10W30 Oil	
2500546	One 5 Gallon Pail of 10W30 Oil	
503409	Two 2-1/2 Gallon Container of ATF Fluid	
503407	One 5 Gallon Pail of ATF Fluid	
	2-Cycle Oil	
554600	Twenty Four 16 Ounce Plastic Container	
554599	Twenty Four 8 Ounce Plastic Container	
	Grease	
5000067	One 5 Gallon Pail OO-Grease	
5000068	Twenty Four 8 Ounce Tube OO-Grease	
	Paint	
5003469	16 Ounce Gray Aerosol	
554598	Six 12 Ounce Orange Aerosol	
2500789	Twelve 1 Quart Can Orange	
546409	Two 1 Gallon Can Orange	
	Lapping Compound	
5002488	One 10 Pound Pail of 80 Grit	
5002490	One 25 Pound Pail of 80 Grit	
5002489	One 10 Pound Pail of 120 Grit	
5002491	One 25 Pound Pail of 120 Grit	
	Specialty Compound	
365422	5.3 Ounce Tube of Electrical Insulating Gel	
5001581	14 Ounce Can of Lubriplate Multi Lube A	
	Biodegradable Hydraulic Fluid*	
5003102	One 55 Gallon Drum TGTSP GreensCare 68	
5003103	One 5 Gallon Pail TGTSP GreensCare 68	
5003105	One 55 Gallon Drum TGTSP GreensCare 46	
5003104	One 5 Gallon Pail TGTSP GreensCare 46	
4115976	One 55 Gallon Drum TGTSP GreensCare 32	
4115977	One 5 Gallon Pail TGTSP Greens Care 32	
5003106	Twenty Four 14 Ounce Tube Greens Care Grease	
	O-Ring Kit	
5002452	SAE O-Ring Boss (3/32 ~ 2" Tube O.D.)	
5002453	Common O-Ring Kit	
5002454	O-Ring Face Seal ORFS (-4 ~ -24 ORS Tube Size)	
	Right Start Kit for New Machines	
	See your local TGTSP Dealer	
	On-Time Maintenance Kit	
	See your local TGTSP Dealer	

* Refer to the Parts & Maintenance manual for the correct hydraulic oil requirements for your machine.

Textron Golf, Turf & Specialty Products offers a High Usage Parts Catalog illustrating commonly used Parts through easy to read line Drawings. See your local TGTSP Dealer for a copy.

1000050 69
1000588 45
1000649 ..... 49, 53
1000700 79
1000770 85
1000843 79
1001226 69
1001251 69
1001311 71
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